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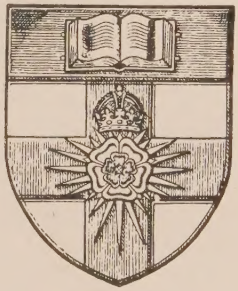

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THE SURVEYORS' INSTITUTION

(*Incorporated by Royal Charter*).

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

TRANSACTIONS.

VOL. XXIV.

SESSION 1891-92.

LONDON:

PUBLISHED AT THE INSTITUTION,

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

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ERRATUM.

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The Surveyors' Institution

(Incorporated by Royal Charter),

12, GREAT GEORGE STREET,

WESTMINSTER, S.W.

OFFICERS, 1891-92.

COUNCIL.

President.

ROBERT COLLIER DRIVER

Vice-Presidents.

FRANCIS VIGERS
CHARLES JOHN SHOPPEE
THOMAS CHATFEILD CLARKE
DANIEL WATNEY

Members of Council.

ALEXANDER MILNE DUNLOP
CHRISTOPHER OAKLEY
ROBERT VIGERS
THOMAS MILLER RICKMAN
ROBERT GEORGE CLUTTON
JOHN SHAW
ARTHUR GARRARD
WILLIAM MATHEWS
JOHN CROSS
JOHN F. L. ROLLESTON
ARTHUR VERNON
HENRY DREW
FRED. THOS. GALSWORTHY
ALBERT BUCK
HERBERT THOMAS STEWARD
CHARLES BIDWELL

Professional Associates of Council.

EDWARD SMYTH
JOSEPH HENRY SABIN

Associates of Council.

SIR RICHARD EVERARD WEBSTER, Q.C., M.P.
JOHN WOLFE BARRY

Past-Presidents.

JOHN CLUTTON
WILLIAM STURGE
EDWARD RYDE
WILLIAM JAMES BEADEL, M.P.
ELIAS PITTS SQUAREY

Honorary Secretary.

JOHN WORNHAM PENFOLD

Secretary.

JULIAN C. ROGERS

The Surveyors' Institution

(Incorporated by Royal Charter)

Is established—

1. To secure the advancement and facilitate the acquisition of that knowledge which constitutes the profession of a Surveyor, viz.—the art of determining the value of all descriptions of landed and house property, and of the various interests therein; the practice of managing and developing estates; and the science of admeasuring and delineating the physical features of the earth, and of measuring and estimating artificers' work.

2. To promote the general interests of the profession, and to maintain and extend its usefulness for the public advantage.

The Institution consists of four classes, viz.—Fellows, Professional Associates, Associates, and Honorary Members, with a class of Students attached.

A Fellow must be more than twenty-five years of age, and must have acquired a practical knowledge of surveying in one or other of its branches as above defined; and must have passed the Examination declared in the Rules of Examination to appertain to the class of Fellows. Fellows have the right, conferred by the Charter, to use the letters F.S.I. after their names.

A Professional Associate must be more than twenty-one years of age, a Surveyor by profession, in practice on his own account or employed as an Assistant in a Surveyor's Office, and qualified for the class by having passed the Students' Proficiency Examination, or the Professional Associates' Qualifying Examination. Professional Associates have the right, conferred by the Charter, to use the letters P.A.S.I. after their names.

An Associate must be more than twenty-one years of age, not a Surveyor by profession, but his pursuits must be such as to qualify him to concur with Surveyors in the advancement of professional knowledge.

An Honorary Member must be a person who, either by reason of his position or experience, or his eminence in science, may be enabled to render assistance in promoting the objects of the Institution, but who is not engaged in practice as a Surveyor in Great Britain or Ireland. He has the privilege of being present and taking part at all Ordinary General Meetings, and of access to the Library, but no right of voting, discussing, or otherwise interfering in the affairs of the Institution; nor is he called on to contribute to its funds.

Students (who must not be under eighteen years of age) qualify as such by passing the Students' Preliminary Examination. Candidates for Studentship who can produce a Certificate of having passed the Matriculation Examination of the University of Oxford, Cambridge, London, or any other University in the United Kingdom, or who have passed, with Honours, the Senior Local Examination of the University of Oxford or Cambridge, or who have obtained a Higher Certificate at the Examinations of the Oxford and Cambridge Schools' Examinations Board, are exempted from this Examination, and may be admitted by the Council on the recommendation (according to a form) of four Fellows and two Associates, or of the Fellow or Associate to whom they are or have been articled; but it is obligatory on all Students to undergo the Proficiency Examination at the close of their Student course, at the time and under the conditions applying in each particular case under the Rules of Examination.

The Council may accord to Students such privileges, subject to such terms, regulations, and restrictions, as they shall from time to time prescribe.

Any person desirous of being admitted into the Institution (excepting to the class of Students) must be proposed and recommended according to a form, in which the full name, place of business (if any), usual residence, and qualifications of the candidate must be distinctly specified. This form must be subscribed by him, and signed by at least six Fellows or four Fellows and two Associates, certifying a personal knowledge

of the candidate; or, in the case of a person who has passed the Qualifying Examination, by four Members of the Council, of whom the President shall be one, after careful enquiry into the antecedents of the applicant.

The proposal so made, being delivered to the Secretary, will be submitted to the Council, who, on approving the qualifications, will determine the class for which the candidate is to be presented for ballot.

The following are the rates of contribution to the funds :—

	Annual Subscription. £ s. d.	Admission Fee. £ s. d.
Student . . .	1 1 0	—
Associate . . .	2 2 0	3 3 0
Professional Associate	2 2 0	3 3 0
Fellow . . .	3 3 0	5 5 0

No person can become a Member (other than an Honorary Member) of the Institution, unless and until he pays as his first Subscription to the Institution, in the case of becoming a Fellow of the Institution, the sum of Eight Guineas, in the case of becoming a Professional Associate of the Institution, the sum of Five Guineas, and in the case of becoming an Associate of the Institution, the sum of Five Guineas.

All Fellows, Professional Associates, and Associates, are required, within twelve months after their election, to deliver to the Council an original Paper on some subject connected with the profession, or to make a donation to the Library or Collection.

The affairs of the Institution are under the management of a Council, which is elected annually, consisting of a President, four Vice-Presidents, sixteen Fellows, two Professional Associates, and two Associates.

The Session of the Institution commences annually on the second Monday in November, and continues to the end of May. The Ordinary General Meetings are held on every alternate Monday during the Session. At these Meetings original communications are read on professional subjects, and their merits fully and freely discussed. Every Member has the privilege of introducing one visitor to these Meetings. Members are entitled to a copy of any printed publication issued by the Institution after their admission.

Paper 179.
No. 299.

THE OPENING ADDRESS

BY

ROBERT COLLIER DRIVER, President,

AT THE ORDINARY GENERAL MEETING OF

THE SURVEYORS' INSTITUTION,

November 9th, 1891.

THOMAS CHATFEILD CLARKE (VICE-PRESIDENT)
IN THE CHAIR.

The Chairman said he was very sorry that the President, Mr. Driver, was prevented by indisposition from being present at the Meeting. He had therefore written requesting the Secretary, Mr. Rogers, to read the Opening Address.

The Secretary then read the following Address:—

Gentlemen,

It is my first duty this evening to thank you cordially for your kindness in placing me for another year of office at the head of this flourishing Institution which now so fully represents the important profession to which we belong. When I was first elected to this Chair, in May 1890, our roll comprised 1,617 names; we have now reached the imposing total of nearly 2,300 of all classes; and, whether judged by this or any other standard, may fairly claim to rank among the leading professional societies of England.

In preparing for my task this evening, I hardly knew whether to lament or rejoice over the dearth of stirring themes, but on the whole I was comforted in their absence by the reflection that the interests with which we as Surveyors are concerned never thrive better than on those occasions when public attention, and the attention of the legislature, is exclusively directed to the many other subjects which have such a manifest priority of claim.

Before proceeding to more general topics, I propose devoting a few minutes to our own domestic concerns. Since we last met, a quiet revolution has taken place in our constitution: we have passed from an old and defined order of things to a new and, in part, untried one, and, this being so, the occasion seems opportune for a review of the work accomplished, and a comparison of the promises of early days with the performances of subsequent years: or, as our colleagues, the Building Surveyors, would put it, to "measure up the work" and take account of the "extras" and "omissions" in the light of the original "specification"; endeavouring to do so, not in any spirit of boasting, but as a matter of sober history.

What was it that we set ourselves to do, now nearly a quarter of a century ago? It was—first, "to secure the "advancement and facilitate the acquisition of that know-"ledge which constitutes the profession of a surveyor"; secondly, "to promote the general interests of the profession"; and, thirdly, to do so "for the public advantage."

To begin with, our twenty-three volumes of "Transactions" and our four volumes of "Professional Notes," comprising together nearly 12,000 pages, represent a large literature called into existence through the agency of this Institution. There is scarcely a subject with which a surveyor in any branch of practice is concerned which is not dealt with in these pages with what has been described as "revolting practicality." This alone would entitle us to a certificate of indemnity under the first head; but I think much more may be claimed in this direction. We have been enabled to take a further and most important step towards "facilitating "the acquisition of that knowledge which constitutes the "profession of a surveyor" by the introduction, ten years ago, of a system of Professional Examinations as complete and thorough and, may I add, as successful as anything of its kind in England. It would be disastrous were it otherwise,

for we have burned our boats and our bridges, and are committed to the Examination system for good or evil for all time to come. There were difficulties and prejudices enough to overcome in connection with the introduction of the Examinations. We were assured by many most estimable people that, as rule of thumb had produced excellent surveyors, under no other system could the supply be maintained. We were assured that the surveyor's work depended entirely on experience, of which, of course, a doctor or a lawyer is wholly independent. We were assured that practice, not theory, was the breath of the surveyor's nostrils—every other profession, of course, being carried on on the basis of pure theory. We were told that the surveyor's occupations were so diversified that it would surpass the powers of human ingenuity to devise a system of professional education that was not at once too full and too contracted. Well, gentlemen, all these illusions have been dissipated by facts. Many hundreds of young men have passed our Professional Examinations, and he would be a bold man who declared that the doing so had not facilitated the "acquisition of that knowledge which con-"stitutes the profession of a surveyor." So I think we may rest satisfied with what we have done towards the fulfilment of the first of the objects which we set before us in founding this Institution. But here I should like to say that there must be no pausing or hesitation in our course. It should be the duty of all surveyors, as I trust it will be their pleasure, to see that their pupils are affiliated at the earliest possible date with the Institution, so that in future every qualified practitioner may look upon it as his "Alma Mater."

Secondly, what has been accomplished by the Institution towards the promotion of the general interests of the profession?

Independently of the means taken in furtherance of education, which also comes to some extent under this head,

I think it may be claimed that the Institution has done not a little to advance professional interests by binding surveyors together into an organised body, and by obtaining a Charter entitling us to accredit those connected with us as duly-qualified members of a regular profession. As an illustration of the value of membership, from this point of view, I need only remind you of the question with which we are all so familiar in the witness box or arbitration room—"Are you a Member of The Surveyors' Institution?" The value of membership has been further emphasised and made locally evident by our recent action in carrying the Institution, as it were, into the provinces by the formation of the Provincial Committees.

Not to dwell too long on this branch of my Address, I would ask, finally, Is it a fact that the usefulness of the Institution has been maintained and extended to the public advantage? It may not be generally known to the Members that the Institution is not seldom the medium for the collection and communication of most valuable information for the use of Royal Commissions and Select Committees of both Houses of Parliament; but, above and beyond this, I would remind you that we have public functions of a specific kind conferred upon us by 41 & 42 Vict., c. 32, and Section 28 of the London Council (General Powers) Act, 1890, the latter of the greatest importance as regards the interests of that large class, the house and property owners of London. We are also vain enough to believe that we have provided the public with a means of distinguishing the qualified from the unqualified practitioner, and clients have themselves to blame if they employ persons whose insufficiency of knowledge is only equalled by their indifference to those moral considerations which should govern the conduct of every professional man.

In view of these facts, shall we allow an unreasoning

diffidence to bar our claim to start on our new career with a clear record?

Turning to general topics, although it is undoubtedly true that the prices of some descriptions of produce have gone up in the market in the last few months, it still remains a fact that we are still in the penumbra of the great shadow which has hung for so many years over British agriculture.

We are all of us familiar with the general statements in the Press and elsewhere, as to the extent of the depreciation in agricultural land values during the last 14 or 15 years. Many of these statements have emanated from persons of unquestionable authority, but, as far as I am aware, there has been until recently no systematic attempt to arrive at a general view of the actual state of things, so far as accurate information is obtainable, where the conditions are so varied, and where so much depends upon the temperament of individual estimators. I said until recently, for it so happens that the Institution obtained a month or two ago, and for another purpose, a very large amount of information on this subject through the valuable agency of its Provincial Committees, than which it is hardly possible to imagine a machinery better adapted to the purpose.

I am aware of the well-worn objection to all statistics, that they can be made to prove *anything*, but the imputation is rather on the handling of the statistics than on the figures themselves, and in dealing with them, as I propose to do very briefly, it will be my endeavour to keep clear of any reproach in this respect. In a circular letter sent out by the Council in March last, the Members of the Provincial Committees, some eight hundred in number, practising in every part of England and Wales, were asked to furnish the Council with their opinion as to the depreciation in land values during the last fourteen years. The response was a very large amount of information of what

appeared to be of a somewhat contradictory kind, but on closer examination it was found that most of the discrepancies could be got rid of by eliminating those returns which applied to whole counties or groups of counties. These evidently represented an attempt to generalise, and usually erred on the side of despondency. By confining attention to those returns which referred to more limited areas within the estimator's personal experience, it was found that a reasonable average could be arrived at.

I should further state that in the greater number of cases the estimates for one and the same district are duplicated and even triplicated, from totally independent sources, and were found to approximate to each other in a very satisfactory manner.

Even in these cases an occasional discrepancy appeared, and when this occurred the discrepant figure was cast out of the reckoning.

In preparing the subjoined abstract of the results, no attempt has been made to arrange the statistics in counties or to arrive at a county average, as, to do so, would be not only valueless, but positively misleading. The districts are therefore arranged in the order of falling percentages, and without claiming too much for the result, or endeavouring to give too sharp a definition to the areas implicated, I think the statement may be regarded as a nearer approach to the actual facts than has been previously attempted.

County.	Average reduction %	Remarks.
Oxon, Chiltern Hills	75	a small area.
Essex, South-east	70	81 highest actual.
Cambs, East	60	
Cambs, West	60	
Essex, North	55	60 % farms unlet.
Essex, East	53	

County.	Average reduction %	Remarks.
Essex, North-east	50	
Essex, South	50	75 highest.
Essex, Mid	50	62½ highest.
Berks, North	50	66 highest.
Berks, South-west	50	75 highest
Suffolk, South	50	
Suffolk, West	50	
Huntingdon	46	
Wilts, East	46	75 highest.
Hants, North	45	75 highest.
Hants, East	42	
Wilts, South	42	
Hants, Mid	40	
Devon, Mid	40	Poor land.
Bucks, North-west	40	
Herts, South-west	40	
Norfolk, South	40	
Oxon, Chiltern Vale Lands	40	
Somerset, South-east	40	
Warwick, Mid	40	
Stafford, West	40	
Hereford, East	38	
Berks, Mid	37½	
Kent, North	37½	
Kent, South Downs	37½	
Warwick, South-east	37	60 % on clay soils.
Suffolk, North	37	
Lincoln, East-mid	37	
Lincoln, West	35	
Durham, East	37	
Lincoln, West	35½	
Glo'ster, South-east	34	
Cambs, South	33	
Essex, West	33	
Herts, North	33	
Kent, West	33	
Lincoln, North-mid	33	
Notts, North	33	
Oxon, South	33	Average 7*s.* 10*d.* per acre.
Yorks, South-east	33	
Bucks, North	33	
Lincoln, North-east and East	32	
Norfolk, North-west and Mid	32	
Kent, North-east	31	
Berks, East	30	
Glo'ster, Bristol District	30	60 % highest.
Kent, South	30	50 % highest.
Northampton	30	
Notts, Central	30	
Oxon, Banbury District	30	
Suffolk, Rye District	30	
Somerset, 15 miles round Bristol	30	60 % heavy arable land.
Sussex, West	30	50 % hill farms.
Worcester, Birmingham District	30	

County.	Average reduction %	Remarks.
Beds, South	28	
Durham, South	28	
Durham, West	28	
Glo'ster, Mid	28	
Salop, East	28	
Bucks, Mid	27½	
Bucks, South	27½	
Hants, South	27½	
Herts, West	27½	
Kent, South-west	27½	
Kent, North-west	27½	
Kent, Mid-west	27½	
Leicester, South	27½	
Dorset, West	27	
Middlesex	27	
Notts, West-central	27	
Somerset, South	27	
Worcester, North-west	27	
Berks, South-east	26	
Lancs, North	26	
Sussex, West	26	
Somerset, Mid	25	
Salop, Mid	25	
Northumberland	25	60 % near chemical works.
Lancs, South	25	
Kent, East	25	
Kent, Weald	25	Up to 50 acres 0.
Bucks, North-mid	25	
Dorset, North	25	
Glo'ster, North-west	25	
Warwick, North	25	
Warwick, West-mid	25	
Warwick, North-west	25	
Worcester, North	25	
Worcester, South-west	25	
Wilts, North-west	25	
Yorkshire, North	23½	
Stafford, South	23	
Stafford, Mid	23	
Stafford, North-east	23	
Lancs, South-west	22	
Surrey, West	22	50 %, far from market.
Surrey, Chertsey District	22	In some cases 50 %.
Stafford, East	22	
Stafford, North-west	22	
Warwick, Birmingham	22	
Worcester, North-east	22	
Yorkshire, South	22	
Herts, South	22	
Salop, West	22	
Yorks, South	22	

County.	Average reduction %	Remarks.
Herts, South-east	20	
Derby, West	20	
Kent, Mid	20	
Sussex, Central	20	
Warwick, East	20	
Wilts, North	20	
Worcester, East and West	20	
Yorkshire, East	20	
Devon, South-east	18	
Durham, North	18	
Lincoln, North	18	
Salop, South	18	
Somerset, West	18	
Yorks, West	18	
Cornwall	18	
Derby, North-east	17½	
Devon, North	17½	
Stafford, South-east	17½	
Devon, West	17	
Devon, North-west	17	
Warwick, South-west	17	
Westmoreland	17	
Beds, East	15	
Beds, Central	15	
Cumberland, North	15	
Derby, East	15	
Derby, South	15	
Devon, South	15	
Devon, South-west	15	
Devon, North-west	15	
Devon, Mid	15	Good land.
Dorset, East	15	
Salop, South-east	15	
Sussex, East	15	
Worcester, Mid	15	
Derby, North-west	14	
Cheshire, North-east	12½	
Wales, Mid	12½	
Stafford, North	12½	
Cumberland, West	12	
Wales, South	12	
Cheshire, North	10	
Cumberland, East	10	
Devon, East	10	
Devon, Mid-west	10	
Lancs, North-west	10	
Lancs, North-mid	10	
Lancs, South-east	10	
Salop, North	10	
Shropshire, North-west	7½	
Yorkshire, North-east	7½	
Yorkshire, South-west	7½	Small farms 0 %.

County.	Average reduction %	Remarks.
Wales, North	6	
Cheshire, East	5	
Salop, South (small farms)	5	
Northants (hill farms)	0	
Cheshire, North-west	0	
Sussex, East (small farms)	0	
Salop, Mid (farms 50 to 100 acres)	0	

A small area of the Chiltern Hills district of Oxfordshire has, therefore, the unenviable position of head of the list, and South-east Essex lags not far behind. Indeed, had one of the extreme figures been incorporated with the average, the latter would have been *facile princeps* in this sorry competition. East and West Cambridgeshire follow with the high depreciation percentage of 60. In North Essex 55 % appears to represent the average depreciation. The 50 % depreciation in North-east, South, and Mid Essex, and in North and South-west Berks, the 46 % in East Wilts, and the 45 per cent. in North Hants, are averages based on a large number of returns, but which take no account of extreme figures. The only other abnormal figures not incorporated in the averages are 60 % (clay soils) in South-east Warwick, 60 % in the Bristol District of Gloucester, 60 % in the Bristol District of Somerset, 50 % in South Kent, 50 % in West Sussex, and 50 % in remote districts of Surrey.

It is unnecessary to go into further detail, as the figures speak for themselves. Generally, two facts, I think, appear from this return—the first, that the depreciation over the heavy wheat land has not been overstated by common report; the second, that the depreciation in the pasture and dairy districts is somewhat less than has been previously supposed.

It is also clear, I think, from figures brought before me,

but not printed in this Address, that the depreciation has been far less in farms from 50 to 200 acres than in the larger farms. I may state, finally, that as the agreement between individual estimators is even closer in the figures under 20 %, we may take it that farmers are, at all events, holding their own over a large part of England, and that landlords in the same districts have not been—well, quite impoverished. Nevertheless the fact remains that in some parts of the country a serious depreciation in land values has taken place.

What are the causes, and whence is the remedy to come? As to the causes, there is now a practical agreement that this state of things has been brought about by bad seasons, cheap imports, and low freights. The remedies are—better seasons, absorption of the surplus food stuffs at the places of origin, and a general rise of freights; to which some would, perhaps, add a higher rate of home production and an improvement in the effectiveness of labour.

The seasons are beyond our powers—what are the prospects as regards imports? I have been favoured, by the courtesy of the officials of the Board of Trade, with an advance copy of the statistical abstract for the year 1890. The following are the facts as regards the wheat imports from our principal foreign competitors, viz., Russia, the United States, British India, Australasia, and Roumania :—

IMPORTS OF WHEAT (GRAIN, MEAL, FLOUR) FOR THE YEARS 1886-1890.

TABLE A.
RUSSIA.

	1886.	1887.	1888.	1889.	1890.
Grain—	Cwts	Cwts.	Cwts.	Cwts	Cwts.
North Ports .	1,708,170	704,227	521,402	886,538	2,416,585
South Ports .	2,012,492	4,797,153	20,928,944	20,423,766	16,972,440
TOTAL. .	3,720,662	5,501,380	21,450,346	21,310,304	19,389,025
Meal & Flour—					
North Ports .	395	13,534	154,302	10,911	11,196
South Ports .	22,215	29,451	78,242	225,194	185,028
TOTAL. .	3,743,272	5,544,365	21,682,890	21,546,409	19,585,249

ROUMANIA.

	1886.	1887.	1888.	1889.	1890.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Grain . . .	290,248	589,055	1,417,703	2,825,292	4,653,735
Meal, &c. . .	—	145	—	9,870	9,492
TOTAL. .	290,248	589,200	1,417,703	2,835,162	4,663,227

UNITED STATES.

	1886.	1887.	1888.	1889.	1890.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Grain—					
Atlantic Ports	13,558,699	20,552,061	6,220,258	5,037,746	6,427,253
Pacific Ports.	11,089,882	9,978,202	8,423,314	11,971,290	10,773,810
TOTAL. .	24,648,581	30,530,263	14,643,572	17,009,036	17,201,063
Meal, &c.—					
Atlantic Ports	9,948,250	13,735,564	11,440,300	8,722,400	10,729,188
Pacific Ports.	1,477,001	1,124,851	1,118,340	1,321,320	1,296,612
TOTAL. .	36,073,832	45,390,678	27,202,212	27,052,756	29,226,863

BRITISH INDIA.

	1886.	1887.	1888.	1889.	1890.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Grain . . .	11,023,949	8,511,512	8,166,254	9,218,204	9,111,582
Meal, &c. . .	2,555	750	—	10	31
TOTAL. .	11,026,504	8,512,262	8,166,254	9,218,214	9,111,613

AUSTRALASIA.

	1886.	1887.	1888.	1889.	1890.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Grain . . .	738,699	1,347,151	2,315,700	1,406,060	3,057,693
Meal, &c. . .	72,692	7,023	51,013	33,263	131,140
TOTAL. .	811,391	1,354,174	2,366,713	1,439,323	3,188,833

The following table shows the imports into the United Kingdom of the three principal cereals during a similar period :—

TABLE B.

	1886.	1887.	1888.	1889.	1890.	Increase or Decrease in 1890 as compared with 1889.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Wheat (Grain and Flour)	67,021,886	80,212,293	80,426,352	78,929,778	82,381,591	+ 3,451,813
Barley . .	13,713,637	14,239,566	21,305,350	17,400,910	16,677,988	– 722,922
Oats . . .	13,485,233	14,462,943	18,770,686	15,990,567	12,727,186	– 3,263,381
TOTAL .	94,220,756	108,914,902	120,502,388	112,321,255	111,786,765	– 534,490

Thus it will be seen that the increase in the year 1890 in the imports of wheat has been more than balanced by the decrease in the imports of barley and oats, which, of course, was not without its effect upon prices.

The only other marked increase shown by the statistics of imports of agricultural produce is in the returns with regard to maize, the amount rising from 36 million cwts. in 1889, to nearly 43½ million cwts. in 1890.

The failure of the Russian harvest and the consequent absorption of local stocks will probably weaken, for a time at any rate, one of the British farmer's most formidable competitors.

Everyone is entitled to rejoice over an enhancement in the value of his particular wares, and I do not know why the British farmer should be an exception to the rule—not at all because of a rise of prices against that sacred personage the general consumer, but because it will secure the

farmer "a larger share of the profits of industry"—a formula with which we are, I think, all pretty familiar.

The American harvest has been exceptionally good this year, but their exports of grain can hardly be long maintained on their present scale in face of the enormous growth of the population of that country.

The recently-issued bulletins of the last census of the United States show that in the decennial period 1880-1890 the population of the cities with over 10,000 souls has increased by $10\frac{3}{4}$ millions, or over 60 per cent., and that the increase in states like Ohio, Illinois, Michigan, Minnesota, and Nebraska has been over 96 per cent. in the same period, or double that of the older states. It seems probable, therefore, that what MALTHUS calls "the pressure of population on "the means of subsistence" will gradually tend to remove one of our farmers' most formidable competitors from the British market. These figures derive further significance from the fact that the growth of the urban population of America has not been made, like our own, at the expense of the country districts, but appears to be wholly due to natural increase and to foreign immigration. On the whole, therefore, I am disposed to think that the present decade will witness a slackening of the intensity of the foreign competition to which the English farmer is subject in his own markets.

What are the prospects of increased production at home? I am not aware that any marked increase in the average cereal or root production in England has taken place during the last twenty years, while the other side of the account shows that a good many new and destructive insect and other pests have followed hard on the heels of our modern system of high farming. It does not seem possible, moreover, to do much more in the way of labour-saving appliances; and, as some amount of manual work must ever be

necessary on a farm, the growing scarcity of agricultural labour by the depletion of the rural districts is matter of serious concern.

We shall, probably, some time before the Greek Kalends be in possession of the report of the Royal Commission on Labour, and be instructed as to the causes, and perhaps the remedy, for the continued transfer of population from country to town. Meanwhile, the preliminary census report of the Registrar-General throws a little light on what is happening.

In five English and nine Welsh counties there is a decided decline of population in the last decennial period. The English counties are Herefordshire, Huntingdonshire, Rutlandshire, Shropshire, and Cornwall—these counties, be it observed, except perhaps the last, are all of a purely agricultural character, without large towns or a casual population of any kind.

This is hardly the case with any other counties except, perhaps, Hampshire, where the increase is only 17,000; Oxfordshire, where the increase is only 6,000; and Westmoreland, where the increase is under 5,000 in the decennial period.

I suspect, therefore, that the depletion of the country districts, which is so evident in Herefordshire, Huntingdonshire, Rutland, Shropshire, and Cornwall, is proceeding at an equal rate in most of the other counties of England and Wales, but is masked by the presence of large commercial centres of various descriptions.

This means, I fear, that the difficulties as regards agricultural labour have not yet been felt to the full, and that some means must be found (whether on the lines suggested by Mr. Dickson or in some other way) to retain the labourer on the soil.

And here I approach a topic which has, I confess, been

seriously exercising my mind, and on which I speak with diffidence and all becoming reserve. The leading agencies for the spread of agricultural knowledge—the Royal Agricultural Society with its shows and its field experiments, the Bath and West of England Society on similar lines, and by means of its dairy classes, have been doing their best for years past with limited resources; but they have been eating the bread of care, and have received but small encouragement from Governments, who always affect an exaggerated respect for the value of voluntary effort. After long consideration, the Board of Agriculture, which did such valuable work under the inspiring genius of Arthur Young, was put upon its legs again, and was sent out to labour in the fields, with many blessings and a scanty purse, supplemented by a small sum for distribution in deserving quarters. It was the "day of small things" and the agricultural community felt faintly thankful for the dole. But better days were dawning. It was suddenly discovered that, while attention had been fixed on the Hessian fly and the diamond-backed moth, the British publican had been multiplying with still more dangerous rapidity, and an extra duty was forthwith put upon beer and spirits, for the purpose of making him a contributary to his own extinction. But Parliament would have no hand in this amiable arrangement, and the Government found itself the holder of nearly £750,000 without any settled destination.

It so happened that the modern system of subventions in aid of rates (a system very antagonistic to the principle of popular control over local taxation) offered a ready means of disposal of this fiscal derelict, and it was accordingly resolved to distribute it among the various county councils, with power to devote their respective quotas either to the relief of local taxation or to the promotion of what is called technical

education. Then, all at once, the skies "drop fatness." A significant hint from Mr. GOSCHEN, in reply to Lord HARTINGTON, caused the authorities in 28 of the English counties to abandon entirely the alternative of relieving the rates, and seven counties to apply only a portion to that purpose, while one only, the county of Middlesex, determined to appropriate the whole balance for the first year to the relief of rates. There is, therefore, no kind of doubt that the bulk of this enormous amount will go annually for good or evil to the furtherance of that amorphous thing called technical education, and, as the county authorities are much more likely to sympathise with agricultural objects than with "modelling "in clay, wood, or other material" (to quote the words of the Act), it does not need a prophet to predict how most of the money will be expended. As it was impossible to foresee such a windfall, the confusion is, of course, supreme, and no one knows exactly how to utilise this gift of fortune. On one point, however, all seem agreed. There must be plenty of peripatetic lecturers, and if the lecturers are not forthcoming (as seems, indeed, to be the case so far as agriculture is concerned) the article must be promptly manufactured—there must be plenty of travelling dairy-schools and plenty of experimental plots, to convince the farmer of the error of his ways. Chemistry, botany, and physiology must be taught in secondary schools, and in continuation classes of elementary schools where no secondary schools exist. The universities have been called on to co-operate, and so much of the £750,000 per annum as goes to agricultural education will soon cease to trouble. It is worth while to look at the Acts under which this sum is to be expended—the Technical Instruction Acts, 1889-1891. These Acts define "technical "instruction as instruction in the principles of science "and the application of special branches of science and "art to specific industries and employments," but the

definition clause expressly precludes the "teaching of the "practice of any trade, industry, or employment"; and "manual instruction" is defined as limited to "instruction "in the use of tools, processes of agriculture," &c., as distinguished from its practice as a trade or industry. These limitations, of course, represent the jealousies of the trades unions. Now, it does not do to look a gift horse in the mouth, especially when that horse is a farm horse; and I have no doubt whatever that honest efforts are being made and will be made to give effect to the intentions of the Act so far as they are discoverable from a study of its clauses, but I confess to considerable doubts as to the practical outcome of this new departure, which may be described as an extravagant endowment of non-existent agencies for purposes yet to be determined. The Agricultural Education Syndicate of the University of Cambridge seem to share my doubt, for they state in their report that "practical farmers are distrustful of theorists," though they proceed in a more optimistic vein to prophesy that "they "may be expected to take interest in experimental plots "which can be used as object lessons, and thus be made the "means of bringing home to them the scientific principles "involved."

Had not the exigencies of *haute finance* ruled it otherwise, it would have appeared to any practical mind that a well-digested scheme of technical education should have preceded its endowment. I know all about the South Kensington Syllabus, but that department has yet to prove its capacity as a teacher in the lower branches of agriculture where theory counts for but little. Whatever doubts I may have in this respect I have none whatever that a great deal of money will be wasted on abortive efforts to hit upon a working plan; and meanwhile the *doctrinaires* will hold high carnival.

I shall be told that much has been done in France in this direction, but it has been by a slow evolution. Moreover, it must not be forgotten that France is a nation of small cultivators, and that what may be possible and desirable there is not necessarily either the one or the other in this country. However, we will hope for the best. Education is a good thing in itself, and not less so because it is gained at an enormous cost.

I suppose we may congratulate ourselves upon the passing of the Tithe Rent-charge Recovery Act of last Session, if for no other reason, because it practically takes the sting out of an agitation which might have been wider in its effects than its promoters supposed, or at any rate cared to admit. The details of the Act are familiar to you all. Its main provisions are two—the substitution of action through the County Court for what the PRIME MINISTER, in somewhat reverential phrase, styled the ancient process of distress; and, secondly, a reverting to what was undoubtedly the intention of section 80 of the original Act—the payment of tithes in all cases by the owner of the land. The tithe-owner's remedy is now distraint upon the produce in the case of an occupying owner, and the hypothecation of rents in other cases. The provisions relating to the remission of tithe in cases where it exceeds two-thirds of the value of the land will give relief to a few limited districts which have done duty for several years past as representative of the whole country, and as illustrations of the extreme iniquity of respecting both sides of a bargain. These remissions will assist in the letting of some of the poorer land.

It is too much to hope that the question is finally set at rest, but it must be some years before it comes again into controversy.

It is disappointing to learn that the long-promised Metropolitan Improvements are again deferred owing to a

difference of opinion between our local and our Imperial Parliaments as to (not to use a word endued with latent heat) "the principle of assessing a special rate upon property "which is shown to be increased in value by an improvement "carried out at the public expense." The definition is not mine, but Mr. H. H. Fowler's.

The principle is, I understand, in a bad way. No doubt, with so vigorous a parentage, it will, as poor Charles II. said, be unconscionably long in dying, and we shall hear of it occasionally; but I do not believe it will be allowed to bar necessary improvements for any length of time, or that it will ever supersede the well-tried system with which we are all familiar.

From the point of view of our professional interests, it matters not a straw who finds the money for improvements, but as experts in valuing and rating questions we owe a duty to the public, and discharged it, not without effect, when the Bill was before the Select Committee of the House of Commons.

Perhaps some of the fiscal purists who joined in the quixotic crusade that resulted in the abolition of the coal and wine dues, which formed such a useful fund for public improvements, are now in some doubt as to the wisdom of their proceedings.

My Address should, perhaps, contain some reference to the Brine Pumping (Compensation for Subsidence) Act of last Session, not only on account of the intrinsic interest of the subject from a surveyor's point of view, but because it has already been dealt with in a Paper in the "Transactions" of the Institution.

Serious damage to property resulting from brine pumping in the salt districts, and the absence of any right of action against those who caused the damage, had become little short of a public scandal.

The endeavour of the local authorities and the persons whose property was injured, to obtain a legislative remedy for this state of things has at last been successful, the promoter's task, probably, being greatly simplified by the substitution of an all but universal owner, in the shape of the Salt Union, for the large number of independent brine pumpers that previously existed, and which rendered it exceedingly difficult to follow the damage to its source.

The many curious speculations as to the bearing of the law of support and ownership in underground water have now been set at rest so far as this district is concerned. The Act now empowers any owner or owners of land of a rateable value of not less than £2,000, or any sanitary authority, to apply to the Local Government Board for an inquiry—the latter taking power, should it appear desirable, to frame a draft provisional order constituting, subject to the approval of Parliament, a compensation district and compensation board, with power to levy on each thousand gallons of brine pumped in the district sufficient to provide a compensation fund for the repair of damage to property or reimbursement to its owners. There are provisions for appeal to the County Courts and to the High Court of Justice, and it is probable that some litigation will ensue before the new arrangement shakes down into working order. On the whole it appears to be a moderate and reasonable remedy for a grievance that called aloud for redress.

It is possible that this new departure may form a precedent of which owners of agricultural land in the neighbourhood of large aggregations of chemical works may avail themselves, for we have it on record that a good deal of the land so situated is depreciated to the extent of fully 60 % as compared with an average depreciation of 25 % in the case of similar property in the same district, but a little more remote from the source of mischief.

Indeed, it is difficult to say how this particular principle of compensation, when once introduced, is to be limited.

There are no social or political questions at present agitating the public mind which have more direct interest for surveyors than the proposal to assess ground rents or "land values" and vacant building land to the payment of local rates. And this, not only because of the immediate effect on the value of real property which such an alteration in the rating laws would cause; but because, closely connected with these proposals is the idea that land and its increase in value should be the property of the community, and not of private individuals; and that therefore, while land remains in private hands, as much as possible of its value should be withdrawn from its owners, by transferring to them a larger share of the burdens of taxation. It would be unjust to ascribe such intentions to all advocates of the proposals in question, but it is the avowed end of many of them; and there can be no doubt that the changes proposed and the arguments used in support of them tend decidedly in that direction.

A vigorous controversy on the subject has now been carried on for some years in the press and on the platform, as usual in such controversies, with a good deal of exaggeration and inaccuracy of statement; and the Parliamentary Committee which has for several Sessions been taking evidence on the large range of subjects connected with the question has done, at any rate, one useful work, by collecting the views of the leading advocates of change and of the present system, with a great mass of information bearing on the whole question. It has tested and sifted the statements made by cross-examination, and published the whole in several huge blue books, so that anyone who really desires a solid foundation of fact and argument on which to base an opinion will find the materials there. I fear, how-

ever, it is hardly to be hoped that many persons will voluntarily undergo the labour necessary for this.

Whatever conclusion may be arrived at by the Committee, they have at any rate had the advantage during the last Session of hearing what was to be said in favour of the proposals for change from a most competent advocate, who began the evidence of the Session by stating at considerable length his views in favour of taxing land values and vacant building land; occupying, indeed, three days in giving his evidence, and about 50 pages in the blue book which reports it. He is too well known here for it to be necessary for me to remind you that he is not only a very able advocate, but a distinguished man of science, who has given very special study to this subject, and written a well-known pamphlet upon it. It may therefore be fairly considered that his evidence represents the best or worst that can be said against the present system; and on that account it is worth while to inquire why he condemns what exists, and what he, and those whom he so ably represents, propose to substitute for it.

As this gentleman's views are now public property, and as he certainly has the courage of his convictions, he will, I am sure, not object, though a Member of this Institution, if I endeavour this evening to deal with some of the points in his evidence. He stated that the enormous increase in the rateable value of real property was due to the concentration of life in towns and to "communal expenditure," and that, therefore, all rates should come out of property; which, in towns, he divided into two classes—(1) *Land*, which (he says) derives its value only from the presence of the community and not from expenditure of capital upon it; and (2) *Buildings*, which derive their value from the outlay of private capital, and produce an annual return, which, being subject to allow-

ance for risk and depreciation, is not of equal value to the annual return produced by land, and should therefore be taxed at a lower rate. He argued that, as the value of town property depends on the maintenance of the town as a community, and the rise in value of such property on the maintenance of the town as a prosperous community, the whole "communal" expenditure is essential for the maintenance and creation of the value of land and houses, and therefore that a large part of that expenditure should be borne by property within the town.

As, however, he is of opinion that the whole permanent element of communal expenditure goes to increase the value of land as distinct from the buildings upon it, he thinks sites should contribute to such expenditure at a much heavier rate than buildings, and this even to such expenditure as poor rate, which has no direct connection with land value.

He proposes to secure this by assessing sites and buildings separately, and levying a heavier rate on the land than on the buildings, *e.g.*, 6*s.* in the £ on the site, and 4*s.* in the £ on the buildings. The whole of these rates he would collect from the occupier and allow him to deduct them from his rent; and so on in proportion from each payment of rent down to and including the ground-rent, if any. In this way, the total rates levied would not be increased, but part would be shifted from the building-owner and laid upon the owner of the site.

He added that he considers there is a third or "personal" element in properly constituted local taxation; but that buildings should not be assessed for the payment of this personal taxation in proportion to the actual rent, but only to their residential values: in other words, that shops should only be assessed at their value as dwellings; and, also, that houses let at small rents should be assessed very lightly as compared with houses of high rental value.

It is not clear in his evidence at what amount he proposes to fix this rate, but, as he contends that the provision of water and gas, and road repairs, are expenses which should largely be borne by owners "because the com-"munity would fail to exist without them," the probability is that the proportion of communal expenditure he would leave to fall upon occupiers would prove to be too small to be worth consideration. It might be remarked, however, that the same arguments would justify the cost of the provision of bread for householders being largely thrown on their landlords; and that the exemption of houses of small value, and shops, at the expense of highly rented residences, might work great injustice in the cases of those whose large families compel them to occupy large houses, the rents of which are in reality out of proportion to the incomes of the tenants.

As regards the rating of buildings he would allow some readjustment of the terms of existing contracts, to compensate building owners for the whole of the rates on the buildings being deducted from rents which had been fixed on the understanding that all rates would be paid by the tenants; but as regards the rates on land values it appears to be his intention that these should be borne by the site owners as a new burden, without any alleviation.

Lastly, he would assess all vacant building land to the payment of rates at its annual building value, because "we are suffering from a lack of good houses in "towns at reasonable distances from the centres of activity"; and putting an annual charge of rates on vacant land would, he thinks, force it into the market, and so lead to a better supply of houses; and he is of opinion that, in towns, land is only lying idle because the owner holds out for a better price, and thinks that building land in towns rarely remains vacant if the owner will take what he calls the

"ordinary price" for it. The ground which is covered by the evidence is too wide for me to do more than mention the principal points on which it has, in my judgment, been completely answered by the evidence of other witnesses.

In the first place, it is not accurate to ascribe the increase in the value of town land and buildings in any large degree to "communal expenditure."

The values of such property rise because of the presence and prosperity of the surrounding community; and that rise takes place as really in the roughest mining towns which spring up in a few days in South Africa or America without any communal expenditure at all, as in the City of London. The members of a community once established make provision for their own comforts and safety by providing roads, sewers, lighting, police, and so forth, by united action, just as it provides by individual action for its food and drink; but it is the value already created which makes this expenditure necessary, not the expenditure which creates the value. There is, of course, some public expenditure, such for instance as that on street improvements, which, no doubt, does improve the value of some property; but it is a matter of common knowledge to us all that, wherever some property is improved in value by such causes, there is sure to be other property depreciated by the very same works; and it would be gross injustice to make all property alike bear specially increased taxation because of an expenditure which only benefited some.

Moreover, it was very clearly proved that, as a matter of fact and not of theory, rates, at any rate as regards London property, do already "come out of property."

It was clearly shown that, owing to many causes, the supply of buildings for trade and dwellings in and near London had kept so far ahead of the demand that there was no monopoly on the part of building owners which would

enable them to dictate terms to the occupiers and throw upon them the burden of the rates; but, on the contrary, that the rents occupiers would pay were always fixed by them with regard to the amount of rates they would have to pay in addition; and examples extending over several years were given, showing that in cases of offices and cottages on which rates were paid direct by the landlords the rents had actually fallen, while the rates paid by the landlords had increased, and *vice versa*. Even therefore if the witness's view as to the liabilities of property were correct, it would seem to be shown that it already bears them.

But, if the necessity for increasing the burden on property really existed, grave exception is taken to the mode in which the witness proposes to do so. In the first place, the separate assessment of sites would involve the payment of rates on ground rents by owners who have, in many cases, given high prices for these rents as investments, on the faith of the contract with the lessees that the ground rents should be paid free of deductions for rates.

To alter the terms of the contract by enforcing the deduction of a share of the rates from those ground rents, would obviously not only deprive ground rent owners of a part of the income for which they had paid a specially high price, but would seriously diminish the capital value of their investment by introducing the element of uncertainty into it.

Nor is there any unfairness in the existing contract to justify such a confiscation; for it has been conclusively shown that, in the first place, the whole amount of the rates existing at the time of the granting of the lease, in reality fall upon the ground landlord; that is to say, that if no rates had been payable on the building, the lessee could and would have given in ground-rent just so much more as he was spared in rates; and, in the second place, that as the rental value of London property has increased since 1851,

when the great rise in rates commenced, much more than the rates have increased, the building-owners' liability for all increase of rates during their terms has been much more than covered by the rise in value of their leasehold interests during their term, which their leases have enabled them to appropriate entirely to themselves.

In the second place, it was shown that the separate assessment of sites at their annual value, irrespective of the ground-rents paid, would be, in many instances, assessing a reversion from which, at the present time, no one was reaping any benefit, and from which the person, who would be burdened with the tax upon it, might *never* receive any benefit; as in instances, which were given, of buildings of which the sites were worth by themselves ground-rents higher than the best rent actually obtainable for the buildings and sites together; while circumstances, out of the control of the owners, rendered it impossible to pull the buildings down and turn the sites to better advantage at present.

The fair basis for assessment for taxation is admitted by the witness to be the benefit property actually produces at the present time; and, if so, the only mode of assessment which can possibly be made on a fair basis is the assessment of buildings and their sites, taken together at their value as a whole.

Building land has no value as building land at all apart from the value of a building that is, or may be, upon it; and the fact that the building decays, while the site does not, is no reason for dividing into two parts, for the purposes of present assessment, what only has a productive value while united. Apart, however, from objections of principle, there are obvious grave practical objections to a system which would involve varying reductions for rates being made by tenants from every payment of rent, with all the

trouble and friction which settling such deductions every quarter would introduce into the management of house property.

Very conclusive evidence was given as to the injustice and undesirability of rating vacant building land. It was shown that there was no necessity whatever for forcing building land into the market in or near London; on the contrary, that the supply of sites and houses had for years been in excess of the demand, and that many districts had suffered much depreciation in consequence. Moreover, it was proved that uncovered building land does not usually remain uncovered because of an extraordinary price being asked for it; but because the demand for tenants of premises does not justify builders in building upon it. However cheap the land, respectable builders will not sink their money in covering it, unless they see a prospect of getting tenants or purchasers for their buildings when completed; and, where business is bad, building land would lie idle at any price.

It was also shown that the public gain greatly in the cheapness of sites and facilities for building, created by the present system of laying out building land in advance of the demand for it; and that it would be impossible to do so and keep open any market for building plots if the ownership of them involved an annual expense in rates while the land lay unproductive. It would seem, therefore, that to carry out the witness's proposals in this instance would inflict great and undeserved hardship on the owners of building land, and injure the public generally by seriously hampering the operation of the market, which, whatever its faults, has, at any rate, been more than successful in supplying the demand.

The points in this gentleman's evidence and in that of his opponents which deserve and would reward attention

are very numerous; but it is impossible now to do more than to recommend those interested in the subject to study the evidence itself, reported in the blue book issued a few weeks ago by the Town Holdings Committee.

I would, however, add that this gentleman denies that anyone has a right to set up existing contracts as against Parliament and its right of imposing a new tax; and as to that, of course, we should all agree with him. But, if a new tax is proposed which affects existing contracts, we have a right to inquire whether it is necessary and just; and, if not, to protest against the weakening of public confidence and the infliction of private loss which the imposition of such a tax would cause. In my judgment the taxes he proposes are neither necessary nor just; and, further, such taxation, by placing investments in real property (which are already disliked as troublesome to manage and uncertain as to return) at a serious disadvantage as compared with investments in personalty on which no additional taxation is proposed, would seriously affect public prosperity by restricting the free supply of land and houses.

Another witness, one of our esteemed Past-Presidents (which one, is clearly apparent from his topography), expressed his conviction that, in the ordinary course of events, local rates fall exclusively on the owner, because if there were no rates the rent would be higher, and that no public advantage would be gained by a division of the rates between the owner and his tenant. He saw no hardship in requiring the tenant to pay the whole of the rates imposed upon his own improvements, pointing out that, were it otherwise, in the case of a landlord who is a tenant for life only, it might take a considerable portion of his rent to pay the rates, and the landlord might die before the reversion fell in, and before he could derive any benefit. He maintained that the present arrangement under which the expense of necessary public

improvements falls upon the lessee is a just one, as the lessee enjoys the whole value of these improvements, and the landlord gets no increase of rent until the termination of the lease. He deprecated, on public grounds, any attempt to rate ground rents otherwise than as they are now rated as part of the hereditament, and was of opinion that to do so would, by rendering them uncertain in amount, alter them from a 3 % to a 5 % property, and deprive trustees of one of the few opportunities of securing a fixed income. In this witness's opinion, it was impossible to make a separation of the building and the site for the purposes of rating, and he gave as an illustration the case of a house in the Strand. In 1859, the Charing Cross Railway Act was passed, and the lessee of that house went to his landlord and said :—"I hold "your house at £60 a year. If you will accept a surrender "of my lease and will grant me a new one for 60 years, I "will rebuild the house and pay you a ground rent of £200 a year." The new lease was granted, and the lessee may have spent £6,000 in the erection of the new house, which, at 5 % interest, would add £300 to the £200 ground rent, making a total rent of £500 a year. When there were 23 years unexpired of the 60 years' lease, a little time ago, he (the witness) bought the leasehold interest. The actual rent which the then underlessee was paying was £1,200 a year to the lessee, who was paying a ground rent of £200 a year to the freeholder. The underlessee, who was paying £1,200 a year, thought his interest worth £1,500 a year. Here, then, the original ground rent was £200, and the brick and mortar rent £300 a year. How much of the £1,200 a year was to be attributed to the land and how much to the building? Nobody could determine it. If an attempt were made to put all the increased value on the land there would be sure to be a wrangle with the other interest, as it would be contended that the building should have 10 %

interest, because it would pay better to build a house in such a situation than it would, say, on Woking Common. There was no such thing as a separate value in land in the case of such a house. It is the house which fetches the £1,200 a year. No advantage whatever would be gained by rating the land separately from the house, and it was certainly impossible in any fairness to rate the freeholder who only got £200 a year, and who really, for 60 years, got none of this increased value—this unearned increment—which all went to the lessee.

As to the proposal for rating vacant building land, this witness puts the case thus. "I think," he says, "people "overlook the fallacy that because a piece of land is not rated "to-day it escapes taxation, and it is suggested that it "should be rated on its capital value now. There could be "no greater misapprehension." He instanced a piece of land which for 10 years, say, would remain in its present comparatively useless state, worth half-a-crown an acre per annum, and then for another ten years beyond the first 10 years would fetch, say, £3 per acre per annum, because the neighbourhood had increased, and there was a great demand for land and little supply. After the 20 years was up it would be quite ripe for building, and worth, say, £10 an acre per annum. What is the capital value at the present time? There was a rent of 2*s.* 6*d.* a year to capitalise and get the value of in present money for the first 10 years, then £3 an acre per annum for the next 10 years, and then for all time after the 20 years £10 an acre, to be valued in present money. The total of these three casts were the capital value of that piece of land at the present time. Now, it was suggested that the land should be rated at the present time, when it is unproductive (bringing in but 2*s.* 6*d.* per acre) on its capital value. "What I want to point

"out," the witness said, "is, that if you do that you rate it on "its value for all time, because you have capitalised it for "all time; and if you do that now you ought never to "increase the rating. Because if, when it is worth 2*s.* 6*d.* "an acre, you are to rate it at its full value for all time, "when it is worth £10 an acre, you certainly ought not to "rate it at any higher sum. A low rate should then com- "pensate for the time you have rated it before it arrived at "its full value. So that the proposal is that you should "*now* rate the full value of property for all time; but if it "goes on increasing in annual value you should go on "increasing the rating." No demonstration could carry more complete conviction to the mind of any impartial surveyor.

So much for matters general. The Session which commences to-night will furnish some Papers of interest and value to the Members. Among them I may enumerate Papers on

Registration of Title.
Fertilisers and Feeding Stuffs.
Party and Party-Fence Walls.
The Scientific Study of Timber.
A Further Branch of the Subject of Dilapidations.
The Four-Course System.
The London Water Question.
The Law of Easements.
Leases to Limited Liability Companies.
The Ventilation of House Drains.
The Results of the Quinquennial Assessment, 1890.

I wish I could add to the list one or two other Papers illustrative of the branch of practice in which our Building Surveyors are more especially concerned. There is an unaccountable reluctance among these gentlemen to contribute to our "Transactions." I suppose because their occupations

are of so exact a character as to yield themselves but little to speculative or descriptive treatment. Before concluding, I would again urge the Members, one and all, to make the new phase of our corporate life, which commences this evening, as great a success as that which has preceded it. I believe I am almost the last of the original Council to pass the Chair. Happily, some of the veterans are still with us, but the time must come when the fortunes of this great Institution must fall under the tutelage of another generation of men, and I, for my part, have no doubt that the trust may be safely committed to their hands. There is no way in which they can help forward its destinies more effectually than by impressing upon every young surveyor within the range of their influence the importance of passing the Institution Examinations. In these days of heroic legislation for the supposed protection of all sorts of public and private interests, there is no knowing what credentials may at any time be required by those who aspire to the performance of responsible work in relation to building, valuation of property, and public sanitation. I do not wish to press this point too far, but anyone who has been at pains to examine recent projects of law will have no difficulty in seeing for himself how public opinion is moving in this respect.

I am conscious that my Address may be lacking in points of vivid interest. It contains neither startling generalisations nor startling predictions. The rôle of prophet is an easy one, but it is eminently unsafe, and there is little one can put into an opening Address of this character beyond a review of the general field of professional interest. I trust that my endeavours in this direction have not put too great a strain upon your patience and forbearance.

Mr. Wheeler, Q.C. (Associate), said the only shadow

that seemed to him to mar the perfect success of this the Opening Meeting of the Session was the absence of THE PRESIDENT. He was sure he expressed the feeling of all present in expressing a hope for his speedy return in renewed health and vigour.

The admirable Address, in no way inferior to any of its predecessors, dealt with various subjects which, as it seemed to him, divided themselves naturally into two classes, viz., those that affected the interests of the Institution from without, and that immense change which was now so materially affecting them from within.

He doubted his competence to deal with many of the subjects touched upon in the Address, and on these he would preserve a discreet silence; but on one of them—the Examinations—he had perhaps some title to express his views, as he happened to occupy the position of one of the Examiners in the law subjects.

Speaking as one in the position of having to set and not to answer examination questions, he believed that this system of compulsory examination had been well and wisely decided upon. From the present time no amount of respectability and no amount of practice would in itself admit to Membership of the Institution. The Examiners stood at the door with their papers in their hands, and those papers must be reasonably and fairly dealt with by the candidates before admission could be obtained.

THE PRESIDENT had touched on another matter which seemed to him of special interest to all present. He had referred to the fact that the London County Council had not seen their way to proceed with those measures of street improvement which had long been promised. He (Mr. WHEELER) deeply regretted this fact, and earnestly hoped

that somehow this very necessary work would be before long taken in hand.

He thought the Members were especially fortunate in having an Address calling their attention to so many interesting subjects, and he would ask all present to testify to their appreciation of it by passing a cordial vote of thanks to THE PRESIDENT.

Mr. T. BLASHILL (Fellow) said he had great pleasure in seconding the vote of thanks to THE PRESIDENT for his Address, which dealt with a large number of interesting subjects. One point, in which he was himself particularly concerned, had not been touched upon by THE PRESIDENT, and perhaps he might be permitted to wander a little beyond the limits of the Address in order to mention it. THE PRESIDENT has been nominated some time ago as one of a tribunal appointed by Parliament to review his (the speaker's) decisions as Superintending Architect to the London County Council, and he thought the Members of the Institution would not be indifferent to the compliment (for it might be called a compliment) which Parliament had paid them in empowering them to send a Member to sit on that very important tribunal.

He was, as everyone must be, interested to some extent in the prospects of agriculture, although he felt more on the subject than he knew, and it was a pleasure to him to find some little tinge of hope for it in the present Address; although on a subject which was so much in doubt, and as to which so much has yet to be learned, THE PRESIDENT was, he thought, judiciously reticent as regards the future.

The Address had, not unnaturally, dealt at some length with questions relating to the taxation of ground-rents, and the division of rating between one class of owners and

another. On this subject he thought it would be better that he (Mr. Blashill) should be silent; but he remembered that before he was in any official position such as he now occupied, he had taken some part in advocating a system of leaseholds which, in his opinion, would put the whole question on a proper footing. At a meeting, some five or six years ago, of the Royal Institute of British Architects, he had brought forward what was known as the Scotch system, which was, practically, a system of perpetual leases. He then thought, and he now saw no reason to alter his opinion, that such a system, which fixed the ground-rent in perpetuity, so that the value of the land was unaffected by any alteration in the value of the buildings on it, and under which the lessee, who reaped the benefit of increased value, if any, would be rated on such increased value, was the better system. It had prevailed in Scotland among men who were every whit as practical and far-seeing as any in the United Kingdom.

There was one other point alluded to in the Address on which, perhaps, he might venture to offer a suggestion. The President regretted the small number of Papers by building surveyors, and to him it seemed that in this branch of practice no better subject could be found for a Paper than that of fire-proof construction, especially in view of the large fires that were constantly occurring, and the difficulty of extinguishing them. The discussion of such a subject by a practical body like The Surveyors' Institution would be extremely useful.

The Chairman said it was not usual on these occasions to discuss the Opening Address, and it was not his intention to do so. He was sure that all present would agree with him that the Address was full of interest, and bristled with points for debate, affording much food for thought in the

future. He felt that the Institution owed Mr. DRIVER a deep debt of gratitude, and much regretted that he was not present to receive their congratulations in person.

The vote of thanks having been put and carried by acclamation, the Meeting then adjourned.

Paper 180.
No. 300.

THE TITLE TO LAND, ITS REGISTRATION & TRANSFER.

By J. R. ADAMS.

Read at the Ordinary General Meeting of The Surveyors' Institution, *Monday, November 23rd*, 1891.

CHAS. J. SHOPPEE (VICE-PRESIDENT) IN THE CHAIR.

On the 6th April last, a Paper was read before this Institution by Mr. C. Fortescue-Brickdale, on the present work of the Land Registry. I was not fortunate enough to be present on that occasion, and in truth, until I read an account of Mr. Brickdale's Paper in the public journals, I was under the impression that the Papers read here were confined within a more limited range, and dealt with matters which more directly affected surveyors than the work of the Land Registry seems to me to do. I was glad, however, to find that I was under a mistaken impression, for the fact that Mr. Brickdale's Paper was accepted and read before an assembly consisting principally of surveyors induced me to offer to read the Paper to which you are about to listen.

Mr. Brickdale's Paper gave a remarkably clear and interesting account of the work of the Land Registry, and contained a powerful argument in favour of the system there administered, but it also contained a candid admission that the advantages offered to landowners were not as much sought after as might have been expected. On the other

hand, Mr. Brickdale thought it would be awkward if all the landowners of England came to be registered at once, and in this I fully agree with him, seeing the extent of ground covered by the various registers.

I do not, however, wish to be looked on as an opponent of the system represented by Mr. Brickdale, and so ably recommended by him. Rather I wish to assist in making the register more useful by pointing out how it can be made more accessible, and what can be done to popularise it. In doing this, I am not blind to what I think to be some of the disadvantages and blemishes of the present system, which seem to me to arise from attempting to do too much; a fault which a more extensive use of the register would soon make apparent, but which the present comparative scarcity of occupation allows to remain out of sight. My own opinion is that a register ought not to attempt to do more than record the absolute ownership, and that mortgages and all other transactions should be left to be dealt with outside the register, just as they are in the case of the public funds and the stocks and shares of railway and other companies. No practical difficulty arises from the exclusion from the books at the Bank of England and from the registers of railway and other companies of all interests except those of absolute ownership.

Mortgages and settlements of stocks and shares are made just as often and as readily as similar dealings with land, and, indeed, more readily, because, in the case of mortgages, at any rate, it is not necessary to make any investigation of title to stocks and shares when lending money upon them. Mr. Brickdale thinks the Land Register is on a better principle than the registers of stocks and shares because it will record mortgages as well as sales. In this I cannot agree with him, and I venture to think that, if ever the Land Registry is generally used, the extra work and

responsibility of recording anything but absolute ownership will be found to be more than can be accomplished. However, my object is, as I have said, to assist and not to hinder the work which the Registry is established to do.

That something more is required than at present is in operation, is plain, not only from Mr. Brickdale's confession of comparative failure, but also from the attempt made by the present Government to compel registration in respect of all futue dealings with land. That the attempt failed is, I think, not to be regretted, for, if the Land Registry is to succeed, it must do so by the voluntary co-operation of those for whose benefit it is established; or, if anything in the shape of compulsion is to be exercised, it must be of the kind that will be welcomed and not repelled. The principle on which I propose to proceed is that compulsion may be used where the aid of the Courts or of Parliament is required, but not in the case of ordinary dealings between man and man. This principle I shall develop hereafter, as you will see.

The first attempt, so far as I am aware, to give a Parliamentary, and therefore an indefeasible, title to land, was the Irish Incumbered Estates Act, which was passed in the year 1858. Its title was, "An Act to facilitate the "Sale and Transfer of Land in Ireland." It created a Landed Estates Court, to which application could be made for sale of (principally) incumbered estates, and, under it, a great part of the land of Ireland was sold with an indefeasible title. The conveyance, however (and this is the point to which I wish to direct your attention), was made, not by the landowners and their incumbrancers, but by one of the Judges of the Court, and the purchaser got the fee simple (or a leasehold interest, as the case might be) discharged from all former and other estates, rights, titles, charges, and incumbrances whatsoever, of the Queen's

Majesty, her heirs and successors, and of all other persons whomsoever—in other words, a clean and clear title against all the world.

Here was, indeed, a grand opportunity for establishing a land registry, as every purchaser got a clean sheet. If it had only been enacted that the conveyance should at once be put on a register, and all dealings thereafter recorded there, we should not have been now seeking for a reason for persuading or compelling the owners of land in England to obtain an indefeasible title and register it at the Land Registry. But our legislators, thirty years ago, looked no further than the political object of clearing the land of Ireland from its incumbered proprietors, and did not discern the advantage of keeping clear in the future what had been cleared by the somewhat heroic remedy of the Incumbered Estates Act, and so the opportunity of establishing a registry of title was lost.

In England, apparently, the first attempt to give indefeasible titles to land was the Act of 1862, which was passed to facilitate the proof of title to, and the conveyance of, real estate. This was the first Land Registry Act for England, and Mr. Brickdale told you how small its operation was and the reasons why this was so. It is, however, interesting, and I hope will prove to be useful, to refer to this Act, because the principle laid down in it was that no title was to be accepted for registration as indefeasible unless it appeared to be such as a Court of Equity would hold to be a valid marketable title. No titles are now registered under this Act, but it still operates on land which, prior to the passing of the Act of 1875 (the subject of Mr. Brickdale's Paper), had been registered under it, and consequently it is by no means a dead letter. I want, however, to refer to the second part of the Act, under which sales might be made by the Court with an indefeasible title under the

circumstances and conditions mentioned in the Act. The plan proposed was, that in cases where a sale was made, the Court should make an order vesting the property sold in the purchaser, which vesting order was to be entered at the Land Registry, and to have the same effect as a certificate of title granted under the general powers of the Act. These enabled the registrar, when satisfied that the title was such as the Act authorised him to accept, to register the land with an indefeasible title, discharged from all claims, much in the terms used in the Irish Incumbered Estates Act. So far as I am aware, these powers to make a judicial sale were never acted on; but the principle established is one which I think might be brought into operation now, with the result of, at any rate, increasing the volume of business at the Land Registry, and ultimately, as I hope and believe, putting the officials there in the awkward position contemplated by Mr. Brickdale, of having a very considerable portion of the land of England dealt with by the Land Registry. I proceed to explain how.

For the information of those among my audience who may not be conversant with the matter, let me state shortly the process of what is called an administration suit in the Chancery Division of the High Court.

Take the case (perhaps the most common one) of a man dying leaving a will the administration of which the parties interested desire to have carried out by the Court.

An action is commenced the object of which is to ascertain the property to be administered or dealt with and the parties interested. Inquiries are directed and answered which disclose what is required. Then the property is offered for sale. Before the sale takes place an abstract of the title to the property to be sold is referred to one of the conveyancing counsel of the Court, who reports on the title and settles the conditions subject to which the sale is to be

made. It is to be assumed that the title is what is called a marketable one, otherwise the Court would hardly order a sale at all. As a matter of fact, a sale is made either by auction or by private contract; in which case the purchaser has by his solicitor, and perhaps by counsel also, to reinvestigate the title to the property he has bought, and in the result a conveyance to the purchaser is executed by the necessary parties uuder the direction of the Court, the purchaser paying his purchase-money into Court, which is afterwards paid out to the parties entitled to it. Thus, a purchaser under a sale made by order of the Court, as at present carried out, has not only to make the same investigation as he would have to make in an outside transaction, but in addition he has some connection with, and inquiry into, the administration suit cast upon him. Now, it appears to me that there is a great waste of time, trouble, and money here, and accordingly what I propose is, that whenever a sale is made by order of the Court the purchaser should be relieved from the necessity of making any investigation of title, and should receive a conveyance executed by the Judge in the same way as was done under the Irish Incumbered Estates Act, and that he should be required (and here only do I propose that compulsion shall be exercised) at once to register that conveyance at the Land Registry, and receive in exchange a certificate of title, it being provided that unless and until this is done the conveyance itself shall have no operation.

Similar proceedings might take place in the realisation of mortgaged properties in foreclosure actions and in the sale of the property of bankrupts, and a very large field of operations would be opened if it were provided in every private Act of Parliament authorising the sale of settled estates that the title given to purchasers should be such as I have suggested, and be registered in the same way.

So far as a purchaser is concerned I need not occupy time in pointing out the advantage of the plan I have proposed. It would enable him, if he thought fit, to dispense altogether with the services of a solicitor, as there would be no title to investigate and no conveyance to prepare—for even that, I propose, should be done by the officials of the Court. The purchaser would simply have to pay his purchase-money into Court, and the stamp duty on his conveyance. All the rest would, according to my proposals, be done for him free of expense, including the certificate of title issued on the deposit of the conveyance at the Land Registry. Is it not obvious that in such a case a purchaser could afford to pay a higher price for the property, and is it not equally obvious that the vendors would have a reason, and a good one too, for seeking the aid of the Court in making a sale of the property, notwithstanding that in order to obtain such aid expense would have to be incurred which would not be incurred supposing a sale took place outside the Court?

The effect of what I have proposed would be to substitute the purchase-money for the property sold, and to bar all persons who, previously to the sale, were interested in the property from claiming it, and to throw them back upon the purchase-money. This is exactly what took place under the Irish Incumbered Estates Act, and what would have been the effect of a judicial sale under the Act of 1862.

The Court would have to undertake the duty of seeing that the purchase-money went to the persons who were entitled to it—for this purpose it would investigate the title to the property, advertise for claimants, and so on—and in the long run it would not be found that any injustice was done. It was for the good of Ireland, or was thought to be so, that the land should be sold and the price substituted for it; and that was as far as our legislators then

thought it necessary to go. I propose to go a step farther, and make the conveyance by the Judge the means of obtaining registration with an indefeasible title, and I think that that object justifies the means I have proposed for arriving at it.

The process of substitution is not a new one in legislation. There are other instances of it besides the Incumbered Estates Act and the provisions of the Act of 1862. One such occurs to me which has been the subject of surprise even to professional men. I allude to the powers of exchange given to the Inclosure Commissioners by the General Inclosure Act, 1845 (8 & 9 Vict., c. 118, s. 147), under which, to use the words of a text writer, "the one parcel exchanged "immediately for all purposes takes the place of the other, "so that, if the title of either be thereafter found faulty, the "person who may recover will have, not the piece of land "with the faulty title, but the piece put in its place and "clothed with its liabilities,"—the reason being that while the lands are exchanged the titles are not; each person concerned keeps his own title, which is fastened on a new piece of land. For sufficient reasons the legislature has always been ready to enact what I have called substitution of one thing for another, and I think that practically no greater violence would be done to any person's rights by what I propose than by what is ordinarily done by the Court in a sale in an administration action. The purchaser is compelled to take the property with the title which the Court thinks fit to give him, and the vendors take the purchase-money instead. In lieu of an expensive, and it may be troublesome, investigation of title, the purchaser would, under my plan, get a clean sheet, and if (which would not be necessary in the majority of cases) there resulted a little more trouble and expense in getting the purchase-money out of Court than at present, the vendors

would be amply compensated by the enhanced price that would, almost certainly, be obtained from a purchaser who knew that he would be at no expense in completing his purchase.

It may be interesting to mention that, although the opportunity was lost in 1858 of establishing a Register of Title to Land in Ireland, an Act passed in the last Session of Parliament (as a sort of supplement to the Act providing for the sale of their holdings to occupying tenants, and for advances to enable them to purchase) provides for the compulsory registration of the conveyances to tenants much in the same way as I have ventured to suggest shall be done with conveyances on sales made by the Chancery Division of the High Court in future, and leaves other dealings to the option of the parties interested.

I have no means of forming any estimate of what would be the result of adopting my proposal, but it is well known that sales by the Court are very numerous, and I think it may be assumed that, as the plan became understood, the occasions for seeking the aid of the Court would soon be multiplied, with the result that the Land Registry would have to enlarge its borders and make provision for a vastly-increased amount of work.

The question of the transfer of registered land was so fully dealt with and explained by Mr. Brickdale, that it is needless and would savour of impertinence for me to enlarge upon it. It is, however, a most important matter, as will be seen hereafter.

I may say that I should propose to model it upon what is done in the transfer of stocks and shares, and, if it should be found necessary hereafter, to abandon the practice of registering mortgages and other dealings not being dealings with absolute ownership; all that would be required would be the utmost care that could possibly be

taken to prevent forgery and fraud, and such an amendment of the law as would protect innocent persons from being affected by the discovery, after registration, of forgery or fraud in the instruments through which they claimed. That this is not an unimportant matter is shown by what are known as the Barton forgeries of London and North Western and other railway stocks, in consequence of which people who had for years been registered as proprietors of railway stocks have been deprived of what, in good faith, they had bought and paid for, too late for them to have recourse to the persons who at law might, if the fraud had been discovered earlier, have been held liable to make good the loss.

The principle on which this has been done is (to use the words of Lord WATSON in giving judgment in the case to be presently mentioned) that men "cannot, by registration "of a forged deed, acquire a valid title in their own "persons," although (paradoxical as it may seem) "the fact "of their being registered will enable them to pass a valid "right to third parties, who purchase from them in good "faith and for valuable consideration."

A startling instance of the risks run in dealing with registered land it may not be without interest to have stated more fully. The case of *Gibbs* v. *Messer* was recently decided by the Privy Council, on appeal from the Colony of Victoria, where, as Mr. BRICKDALE told you, a system of registered title and transfer has been long in operation. The facts of the case were shortly these:—Mrs. M., a lady residing in Scotland, was the registered proprietor of land in Victoria. She had given her husband a power of attorney, enabling him to sell or mortgage. The husband went to Scotland, and left behind him in the colony the certificates of his wife's title and the power of attorney to himself. The solicitor with whom these documents were left, forged a conveyance to a fictitious and non-existent person, and got the conveyance

registered. He then forged a mortgage from the fictitious and non-existent person to real and existing persons, and that also was registered as a charge on the property registered in the name of the fictitious and non-existent person. The solicitor appropriated the mortgage-money to his own purposes and disappeared. In course of time the frauds were discovered, and the true owner took proceedings to have her property restored to her freed from the mortgage, or with funds provided out of the insurance fund under the Victorian Act sufficient to discharge the mortgage. The Courts in the colony decided in her favour, directed the land to be re-registered in her name, and ordered that the mortgage-money should be paid out of the insurance fund. This, the registrar resisted, and the Privy Council decided in his favour, so that in result the mortgagees not only lost their money, but had to pay all the costs. On the face of it the case is one of great hardship, although it falls within the principle just mentioned; and it proves that the position of holder of a registered mortgage is not one of absolute safety, and I am inclined to think it also proves that it would be better to confine the register to the absolute ownership. I am not able to say what would be the position of such a mortgagee under the law as administered by the Land Registry here, but I want to point out that in this country there is, so far as I am aware, no insurance fund, and that consequently to that extent the position of a registered mortgagee here is worse than that of his fellow in Victoria. Both these points will have to be dealt with and put on a different footing before any system of registration of title and incumbrances can be considered satisfactory. To me, it seems that only one course can be adopted, namely, to provide that the holder of a certificate of title or a registered incumbrance shall not be affected by any fraud or forgery by which it was obtained unless he were a party or privy to the fraud, and that the

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mere circumstance that he handed in for registration a forged conveyance or a forged mortgage shall not of itself deprive him of the benefit of registration. This amounts to throwing on the registering authority the responsibility of all documents accepted by it as genuine unless the person taking the benefit of registration is party or privy to the fraud.

The losses in the *Messer* case arose from the opportunity given to a solicitor to perpetrate a fraud, and the moral would therefore seem to be, "Don't trust solicitors." It may, therefore, not be out of place to point out that the Legislature itself has invited people to trust solicitors by enacting (s. 56 of the Conveyancing and Law of Property Act, 1881) that, when a solicitor produces a deed having in the body thereof, or endorsed thereon, a receipt for consideration money or other consideration, the deed being executed or the endorsed receipt signed by the person entitled to give a receipt for that consideration, the deed shall be sufficient authority to the person liable to pay, or give the same for his paying or giving the same to the solicitor; and by the Trustee Act, 1888, s. 2, the provisions of that section of the Conveyancing and Law of Property Act, 1881, are made applicable to trustees, so that while the Act invites people to place confidence in solicitors, the courts of law say that, if you do, you do so at your own peril, a not very satisfactory state of things it must be admitted even by solicitors themselves.

I must be pardoned for so long a digression from the main subject of my Paper, but I think you will agree with me that the mode and consequences of transfers of Registered Land are quite as important as the fact of Registration. I now proceed to deal shortly with the question of local Registries. At present there are none, and, so far as my opinion goes, there ought not to be any. My objection is not one of principle, but of expense.

I think the expense of local Registries would be out of all proportion to the benefit to be derived from them. In their place I propose the utilisation of the County Courts as agents for the central Registry. Working through these as country banks transact their business through a London bank, would, in my judgment, meet all the requirements of the case. That some means must be provided of registering and transferring properties outside the metropolitan district is clear, otherwise the benefits of registration will not penetrate into remote country places where, perhaps, it is most needed. The County Courts are within the reach of all, and they are part of the judicial system of the country, and, as such, seem to be the natural place to resort to, to carry on the non-metropolitan work of the Registry. On this part of the subject I do not do more than offer an opinion, the value of which can be estimated at what it is worth by those who are directly interested in the question.

One subject remains to be considered. It is the question of expense. At first the fees in the Land Registry were very small. I paid a few shillings in 1872 for registering the conveyance of land which cost £2,750. In 1884 I paid a few shillings for registering a mortgage of the same property for £2,000, but in 1889 I had to pay £6 5*s.* for registering a transfer of this mortgage. Such a fee is, in my opinion, much too high. There is practically no responsibility and very little trouble about such a matter as registering a transfer of a mortgage, and the fact that the stamp duty on a mortgage is 2*s.* 6*d.* per cent., and the stamp duty on a transfer of mortgage is only 6*d.* per cent., is sufficient to show the relative importance of the two transactions. I admit, nay, I contend, that the Land Registry must be, at any rate, self-supporting, and must not be a burden on the nation. It may require some skill and discrimination to determine what fees shall be charged—*ad*

valorem fees seem to be necessary, and also the fairest; but a very moderate *ad valorem* fee would be amply sufficient payment for what the Land Registry does and has to do at present. If indeed (which does not seem to be the case) the fact of Registration was a guarantee of the genuineness of the mortgage and the transfer, and the incumbrances were not left to the chance of loss, as in the *Messer* case, something might be said for such a fee as £6 5*s.* for Registering a dealing for value such as I have mentioned, but it may not be amiss to point out that under the Forged Transfers Act of last Session, any company or body which adopts the responsibility for its certificates of proprietorship is authorised to charge a fee of not exceeding 1*s.* per cent. on the amount involved, and if this had been the rule at the Land Registry, the fee for Registering the mortgage I have referred to would have been 20*s.* only instead of the £6 5*s.* paid.

To the plan that I have ventured to propound for increasing the number of registered proprietors of land there may, and probably will, be many objections. It would be impossible to make any proposal on the subject that would be free from objection. I may, however, I think, claim credit for suggesting a plan which is at least feasible as well as desirable in the interests of the proprietors of land.

That the plan, if adopted, would not be altogether acceptable to my brethren of the legal profession is possible, and even probable. But that is an objection that I do not care to meet, if it be made on the ground of interference with professional profits. Any system of registration of title must, when it gets into operation, reduce professional profits, if it is to be of any value to the public. What I have sought to do is to recommend what appears to me to be essential to the success, not only of the existing Land Registry, but of any scheme of registration and transfer of

title to land which is not to be compulsory, and at the same time to confine my suggestions to practical matters, and if I should succeed in any degree in assisting in the solution of what I admit is a difficult problem, I shall be amply repaid for the trouble I have had in preparing this Paper.

In conclusion, I must offer to the Council of the Institution, and to this Meeting, my acknowledgments for the opportunity afforded me of reading this Paper, which I hope has not been so technical as to have wearied you.

Mr. F. K. Munton (Associate) said he desired to offer a few observations, but before doing so he was sure he should echo the feeling of every gentleman in the room when he suggested that a cordial vote of thanks should be given to Mr. Adams for his very interesting Paper. He felt the greater pleasure in proposing this vote of thanks because he (Mr. Munton) entirely disagreed with the conclusions at which Mr. Adams had arrived. He had that morning had occasion to make a long journey from South Wales to London, but its wearisomeness had been relieved by the fact that he happened to have with him the positively amusing Paper read by Mr. Brickdale to the Institution about six months since. He yielded to no one in his respect for that gentleman personally. He was an able official of the Land Registry, and he should say if anyone had to be put forward to plead to the solicitors and landowners of England for their adherence to the Land Registry Mr. Brickdale was the very man to succeed. That Paper had been alluded to by Mr. Adams, and, in fact, he had in some measure based his own thereon. Mr. Brickdale drew such a picture of the Registry that the life of Rarey, the horse-tamer, who appeared before the public some years since, and managed to tame the most untractable horses, was nothing to it. The charming account of the proceedings quite fascinated

three or four of the most eminent surveyors then present, and also one member of his (the speaker's) profession, who seemed to regard a non-registering landowner as a man to be severely censured.

He would ask the Meeting to examine for a moment what Mr. Brickdale really said. He (Mr. Munton) was in the same profession as his friend Mr. Adams, and during the last 25 or 30 years had had ample experience in conveyancing. According to Mr. Brickdale a possessory title could be taken up for about 1*s.* 2*d.* per £100, and it ought really to be a perfect delight for a landowner to go to the Registry to depose to one at that moderate cost. When, however, he spoke of people being able to get an indefeasible title at the Land Registry for about 2*s.* 4*d.* per £100, he would venture to say that he was drawing a very fanciful picture.

As to Mr. Brickdale's illustration, comprised in voluminous abstracts of title gathered from so large a number of deeds that he did not know how many sheep had to be slaughtered to find parchment for them, and his other very strong picture of the work which had to be gone through in reference to the conveyance of land, he (Mr. Munton) appealed to every solicitor in that room with any appreciable knowledge of the conveyance of land during the last 12 years, whether, in most instances, the process was not now exceedingly brief. He (Mr. Munton) had, as trustee, himself sold, within the last three months, through the aid of an eminent Member of the Institution, a quantity of land amounting in value to several thousands of pounds, where the title was simply this—A lady died 14 years ago, and appointed him her executor: he put in the conditions of sale that whoever purchased the property must accept the fact that it passed under her will by general devise, and that he, as executor, knew that she was then in possession, and that he had re-

ceived the rents since her death, he making a statutory declaration to that effect. Did anybody think that the property suffered a shilling in the price it fetched for that restricted title? Since the coming into operation of an Act some ten years ago, it was a very uncommon thing indeed, on selling a freehold estate, to have a long title. He would appeal not only to solicitors present, but to surveyors and auctioneers, who had larger experience than he had, whether they would not support him in saying that now it was almost invariably the case, on looking at conditions of sale of property at the London Auction Mart, to find that the title only dated back to a comparatively recent time, and that the difficulties, suggested by those who were more in love with a land registry than he was, were almost things of the past.

It was admitted by Mr. Brickdale that the 1862 Act was a failure, and he told them the reason why its operation was so small. But what did Mr. Adams propose? If there was an objection to the landowners' incurring expense under the 1862 Act, how much more expense would they have to incur in the cases to which Mr. Adams referred? His suggestion was that in all instances where property was sold through the Court of Chancery, or in the case of bankruptcy, or in the exercise of mortgagees' powers of sale, it would be desirable that an indefensible title should be given to the purchaser. Those, however, who were familiar with the process of a Chancery administration order knew the limited extent to which the conveyancing counsel of the Court advised on the title. He should be glad to hear from Mr. Adams, in reply, whether he contended that the Court of Chancery would pass titles that now passed easily outside, without an enormously expensive investigation.

Who wanted to go to the Court of Chancery to sell his property or a testator's property? If the objection

under the 1862 Act was that one had to satisfy the land registrar's requirements before making out the title, and that it was too expensive and cumbrous, how much more so would it be to satisfy the Chancery Judge? If Mr. ADAMS could say that the Court would just as easily accept an abstract for an indefeasible title, as it now passed one in the case of an executor merely applying to the Court for liberty to sell, there would be something in it; but no judge would thus quickly certify an indefeasible title with the possibility of compensation having to be paid if a mistake were made.

To follow it up, let it be assumed that one agreed to go to the Court of Chancery for an order for sale of property, as Mr. ADAMS suggested. It was said that there would be no hardship on the vendee if his title were defective because he could follow the money.

The Act of Parliament quoted, which recognised the substitution of the right to take one piece of land in lieu of another, was a totally different thing to the right to follow money when it would probably be gone, for it must be paid out of court within a reasonable time after the completion of the purchase. As to sales under bankruptcy, those who were unfortunate enough to be creditors and likely to receive a shilling or so in the pound would not welcome a plan whereby, instead of the official receiver or trustee putting the property in the hands of an auctioneer without any delay, he had to satisfy the Court that he had got a strict title.

Many things at first sight appeared easy; but those who were in daily practice knew that extreme difficulties would (and not unreasonably) be made by officials on inquiring into so-called indefeasible titles.

It was said that there was no more reason why an indefeasible title should not be given to land than to shares

in a railway company. He could not agree that there was any ground why persons who were buyers of stock or railway shares should have an indefeasible title, notwithstanding a forgery. It was one of those misfortunes which we all had to suffer occasionally by buying under circumstances which led to wrong being done. He believed that there was some rule in the Stock Exchange by which compensation, under certain circumstances, was given; but it seemed to him to be unreasonable and needless to attempt to impose by legislation, on railway companies or anyone else, that a person who was registered on the basis of a forced transfer should acquire a title thereby. One would of course feel sorry for the purchaser, but that was, he thought, all that could be said for it.

He disagreed with his friend Mr. Adams in thinking that the decision *in re* the London and North Western Railway Company was either wrong or unjust.

This question of land registration, arising on the Paper read by Mr. Brickdale, rested mainly on, he would not say the enthusiasm of Mr. Brickdale, but on the natural official desire of that gentleman to show the world how desirable it was that landowners should bring their land to his office for registration.

There was one point in Mr. Adams' Paper suggestive of a general registry for deeds, in which he (Mr. Munton) was rather with him. All solicitors knew that there was in Middlesex, and in Yorkshire, a Registry for every kind of transaction connected with land. There were some who thought that these registries might be abolished, but he believed the preponderating number would decide that it was undesirable to do away with them. Of course, it was an anomaly to have a registry in Middlesex, involving registration in the case of a sale of, say, The Surveyors' Institution, and to have no registry under which the registration of the sale of St. Thomas' Hospital would take place

because it was in Surrey; but some would answer that it was desirable to have a registry in Surrey as well as in Middlesex. He had had much to do with the Middlesex Registry during the last few years in the way of stamping out some of the anomalies and excessive charges. The office had now very properly fallen into the hands of the Government, and the abuses had been abated. Since the practice had been simplified he was not sure that the time had not come when, instead of bolstering up the unpopular land registries, there should be a general registry of deeds (not titles) throughout the kingdom. In the course of years it would create a title, or have the effect of creating one, for where persons searched and found registration for the last 12 or 20 years, it was a material help.

He hoped, when his friend Mr. Adams came to give the subject further attention, he would see that alteration, if any, should be in the direction of simply registering transactions irrespective of their character, instead of forcing landowners to go to the expense, in the first instance, of attempting to make out an indefeasible title, necessitating some fund being provided out of the pockets of one set of people for the purpose of compensating others, in case of a mistake. He did not see why nineteen men who had not got land should bear part of the compensation for the twentieth man who happened to have some, because of some mistake.

He (Mr. Munton) trusted that The Surveyors' Institution would not let it go forth to the world that they were in favour of compulsory registration of title, and much less that one should be obliged to go to the Court of Chancery and incur the expense of investigation there. He hoped, sincerely, that some of those present would speak, and show that they were not, as a body, so enthusiastic as a few of the Members appeared to be when Mr. Brickdale read his Paper, and

that having considered it carefully they had come to the conclusion that registration of title in the way proposed by Mr. Adams was undesirable in the interests of the land-owners of the country.

Sir Henry Cartwright (Fellow), in seconding the vote of thanks, said he was sorry to find that Mr. Munton felt so strongly in opposition to the registration of transactions in land. He believed that, in this country, land registration of a simple and efficient character would have been established long ere this if it were not for the opposition of the two branches of the legal profession. The conveyance of land always formed so large a portion of the business of the legal fraternity that they were naturally not very willing to let it go to any large extent out of their hands if they could avoid it, and he believed their influence had mainly caused the retardation of its introduction and adoption.

The only point upon which he ventured to differ from Mr. Adams was that, as he understood him, there should not be local registries, but merely a central registry. He (Sir H. E. Cartwright) thought that, in order to establish a simple and proper registration of land, to avoid the expense of conveyance and to insure the acquisition of an efficient title, registration should be made local in the same way as local administration in the Probate Courts. The county might be taken as the unit, or a congeries of counties lying close together might have one court between them; but, on whatever lines, there should be local registries, because by their means the circumstances affecting the land were more easily ascertained, and the advertisements relating to the land to be dealt with were more likely to catch the eyes of those interested than if the particulars were sent up to the Metropolis for registration.

When, some years ago, he held a judicial office in the

Bahamas, there were interminable disputes between the landowners there and those dealing with them. The landlords had granted land to settlers who came over in masses from Virginia at the time of the revolution, and in many cases careless clerks and others had duplicated the deeds; so that the whole question of land title was in a very confused state, and the only people who benefited by it were the legal fraternity. Whenever land was sold or transferred, or, indeed, when any transaction in it took place, enormous bills of costs were run up. He was then a member of the colonial legislature, and, in combination with one or two thoughtful men, took steps to remedy the evil. They introduced a Bill which subsequently passed into law, establishing a land registry for the whole of the colony. Under it, the conveyance of any piece of land occupied only a single sheet of paper, very much like a transfer of stock, and every sale or transfer had, compulsorily, to be registered.

The scheme came into operation gradually; but soon the whole of the land became registered, and, instead of long litigation and longer bills of costs, landowners now transferred their property as simply and effectively as possible. There was no trouble beyond a notice, by public advertisement, that a certain piece of land was to be conveyed or otherwise dealt with. Notices of objection (if any) were to be made to this land registry.

The system had proved to be of the greatest value in that case, and he could not help thinking that, different as was the scale on which a land registry in England would work, still, in the same way, a good local registry for dealings with land would have the same effect. Gradually all land would be registered, a short form of conveyance or transfer would be all that was necessary, and there would be an end of much heart-burning and trouble. There

would also result another very important change—surveyors would themselves deal with the land, and would not go to counsel and solicitors for long abstracts of title, or have to pay 50, 60, or 100 guineas for searching back 40 years and looking up all the mortgages and settlements affecting the land. They would go to the Land Registry and there get a certificate of registration, and the transfer would be effected as completely and in as binding a manner as could be done by any lawyer. The public would be benefited by a feeling of security as to their title, and by the saving of a great deal of the cost which the present system involved.

He begged leave again to thank Mr. Adams for calling the attention of The Surveyors' Institution to the subject, and to express a hope that his proposals might lead to some legislation on this very important subject.

Mr. E. J. Castle, Q.C. (Associate), said that, although he had not a very intimate technical knowledge of this subject, which rather concerned the other branch of the profession than his own, he had had some little experience in dealing with land, and he would like to say a few words on two points in particular.

It seemed to him that Mr. Adams' Paper dealt with two questions—one, the desirability of having an universal registry, and the other, the question of what guarantee of title the registry could afford to give.

In dealing with the question of an universal registry, it was rather curious to notice that Scotland had not been referred to. Every deed affecting land in Scotland had, he understood, to be registered in the Court of Session, and it seemed to him, if there were a necessity for registration here, that, instead of going to that already overworked man, the County Court Judge, the duty might be placed on the County Council or the Clerk of the Peace.

One difficulty occurred to him. When deeds of this kind were registered, was the duty imposed on the registrar or on the person who registered those deeds, of seeing that all was right? If so, the expense would be enormous, and he was not quite sure that the result would be useful. To quote a well-known instance. He believed—his information was second-hand, but he thought his facts were right—that when the Government bought the land on which the present Law Courts stood, it appeared that a lease of it was granted for 200 years in the year 1666, and on a portion of the land (over Temple Bar) there was a little barber's shop, for which 1*s.* 6*d.* a year quit rent was paid. The land changed hands, and the Government eventually took possession. In 1866 the freeholder came along, and said, "I want my land back." The Government was in some difficulty, he believed. There was the undoubted freeholder, a quit rent of 1*s.* 6*d.* a year had been paid, and the 200 years had elapsed; and, as he understood, the Government had to repurchase a good part of the land. No registration would meet such a case if there were an outstanding lease of 200 years on which a small quit rent was paid. It seemed to him that under such conditions a great deal of investigation would be required in order to enable the registry to give an indefeasible title. There were many titles in the market, which, as everybody knew, would pass muster; but if any one were to be made responsible, that the possessor should not be hereafter disturbed, an enormous amount of inquiry would be necessary. Either the practice of the Court of Session must be adopted of registering all deeds, even when they were contradictory, or one must go through the whole thing in the ordinary way, and that, he thought, was why the matter had remained in abeyance.

Mr. Adams, in reply, said Mr. Castle's point about the

1*s.* 6*d.* a year quit rent, seemed to him rather in favour of what he had suggested that the Court should "take "the bull by the horns," and sell the land and then hold the money until it was satisfied to whom it should rightly be paid.

As to local registries, he had not ventured to make any proposition of a very definite character, but he suggested that the business of registering land and transfers would be so spread over the country that such a scheme was entitled to consideration. He had only dealt with it as a temporary measure until some permanent steps could be taken, when either the County Court or the Clerk of the Peace might be authorised to receive the necessary documents and to transmit them to the central office, for the purpose of registration.

With reference to the simplifying of conveyancing, he thought there was very little ground for complaint under the present system. The time of long deeds was practically past. So far as he was personally concerned, his one endeavour was to keep them as short and as simple as possible, and the system of payment by scale left no inducement to increase the charge by adding to the number of folios. He thought there was nothing to prevent a conveyance being as simple as even Mr. Brickdale could wish, or as a transfer of railway stock.

His experience taught him that in some cases of transfer executors and trustees were very lax. He (Mr. Adams) was trustee, some years since, of some Great Western stock in the name of a lady. The will was proved and probate granted, but the company never asked for his signature, and when the stock was sold and the transfer signed by him, there was no means of their knowing whether the signature was genuine or the contrary.

One of Mr. Munton's remarks reminded him of a point which he had not sufficiently regarded when he wrote his

Paper, and that was as to selling bankrupt properties in the way suggested. There was a not unnatural desire to realise the estate of a bankrupt as quickly as possible, and to at once divide the assets amongst the creditors. But in the Incumbered Estates Court in Ireland millions of pounds had been received and distributed without a complaint that anyone had been wronged; and the essence of his proposal was, that the clear title to property should be assumed by the Court, and that sales made by it should be made, so far as the purchaser was concerned, free from the trouble and expense of investigating the title. The land would be more readily saleable, and the details of the system might be easily arranged to enable vendors to meet the necessary expenses, which he did not think would be at all considerable.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

To Illustrate Mr C. H. Bedells' Paper on

PARTY AND PARTY-FENCE WALLS.

FIG. 1.

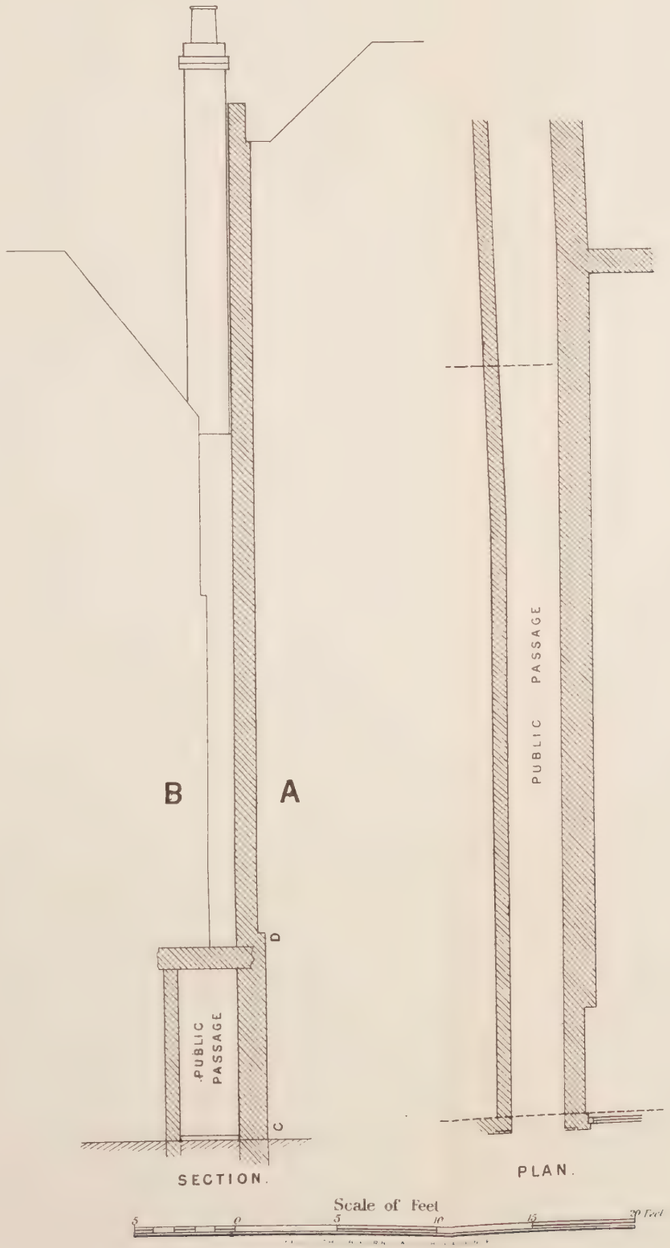
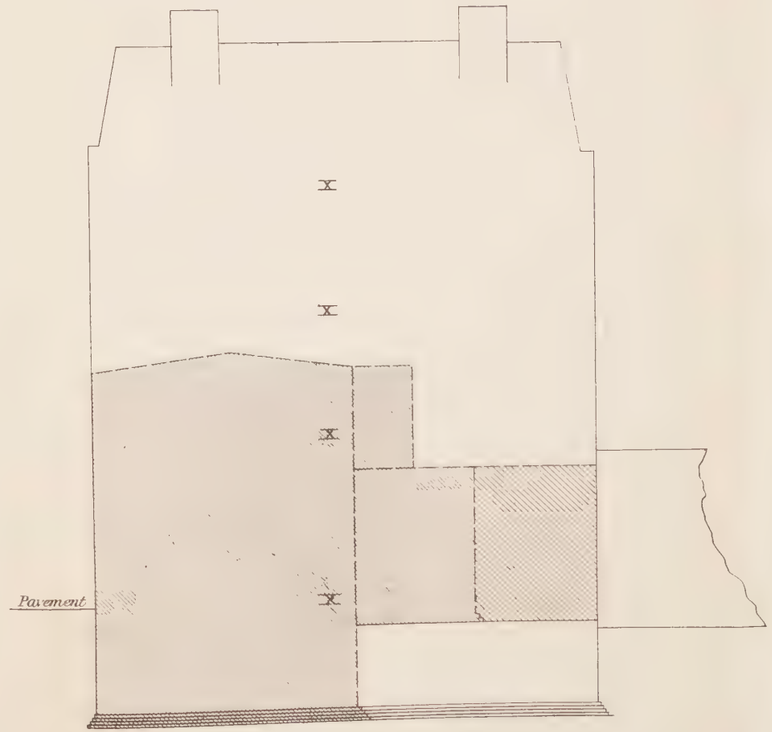


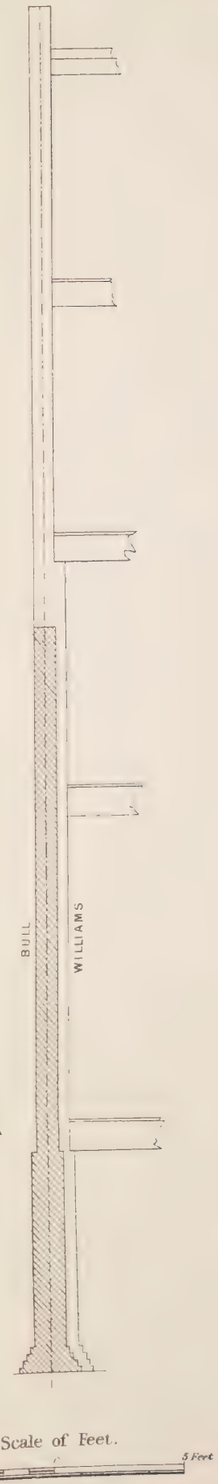
FIG. 2.

The case of
WILLIAMS v. BULL.



ELEVATION OF NEW PARTY-WALL.
SHEWING ALSO ELEVATION OF OLD PARTY-WALL.

Scale of Feet.
5 0 5 10 15 20 Feet



Scale of Feet.
5 0 5 Feet

Paper 181.
No. 301.

PARTY AND PARTY-FENCE WALLS.

By C. H. BEDELLS (Fellow).

Read at the Ordinary General Meeting of The Surveyors' Institution, *Monday, December 7th*, 1891.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

I need offer no apology for the subject I have to bring before you this evening; but I have to ask your forgiveness that I have found it quite impossible to compress anything like a complete treatment of the subject into such a compass as would be suitable for a Paper like this.

A few words by way of introduction. It is a matter of surprise to me, I must confess, that the many questions to which the subject gives rise, are questions upon which Statute Law in our country is silent. In other countries (in some at least) it is not so.

The Code Napoleon of France for instance, and the Code of the United States, both deal in a more or less comprehensive way with these questions, but have, so far as I know, no parallel in our English Statute-book, except in isolated instances, such as the provisions of the Building Acts in force and operative within the Metropolis and some few towns, and even these are by no means comprehensive. It may be interesting to you if I briefly note one or two of the provisions of the French law.

Article 646 gives every proprietor the right to compel his neighbour to determine the boundaries of their contiguous properties, such determining to be at their joint expense. By Article 653, in towns and fields, every wall

which serves as a boundary between buildings, even to its base as between courts and gardens, or even between enclosures in the fields, is to be presumed "party" if there be no title or mark to the contrary.

655. The reparation and rebuilding of party-walls are to be at the expense of all those who have any claim thereto, and in proportion to the claim of each.

663. Each inhabitant of a town or suburb can compel his neighbour to contribute to the construction and reparation of the enclosure forming the boundary of their houses, courts or gardens, situate within the said towns or suburbs, the height of the enclosure is to be fixed according to particular regulations or constant and acknowledged usages, and in default of such usages and regulations according to the direction of the Code.

In the United States there are officials known as "fence viewers," and the Statutes regulate the erection and repair of boundaries. Persons liable to contribute can be sued for non-repair, and in default by one party the other can repair and recover. A new boundary may be erected, half on one's own, and half on one's neighbour's, land. How far these regulations apply to walls I have not yet ascertained.

The subject will, from the facts stated, naturally divide into two main divisions—*Party-Walls and Party-Fence Walls under Common Law* (Common Law, being as Mr. WHEELER recently defined it for us, "That ancient collection "of unwritten maxims and customs, however compounded, "or from whatever fountains derived, which has subsisted "immemorially in this kingdom"), and *Party-Walls under Statute Law.*

In entering upon the consideration of the first of these divisions, I must remind you that I am not a lawyer, but a surveyor, and if in the course of this Paper I am driven,

as I shall be, to express an opinion on matters of law and the decisions of the Courts, I do so from a surveyor's point of view, and my excuse for thus going beyond, perhaps, the limits of one's legitimate province must be that I find I have often to guide myself as best I can by my own understanding and view of such things, and I am speaking to those who have, in the main, to act upon a similar judgment, imperfect though it must be.

Our legal Associates, to whom we are so much indebted for their contributions from time to time to our discussions, will, I hope, accept this explanation, and will allow me to add that personally I shall feel exceedingly grateful for such corrections as they may think fit to make upon any points upon which I may be in error.

Party and Party-Fence Walls under Common Law.

We shall clear the ground if we start with an attempt to answer the question "What is a party-wall?"

Mr. Justice Fry, in the case of *Watson* v. *Gray*, described the term "party-wall" as a "popular rather "than a legal one," and one which appears to be used in four different senses. Let us look at them—

First (and, as we shall hereafter see, most important), as describing a wall erected on land belonging to owners of adjoining lands in equal moieties as tenants in common.

This is the most ordinary case, and, if the exact boundary line between, say, two houses, cannot be ascertained either by documents or acts of ownership, the law will infer that there is ownership in common of the wall and of its site: so that the owner of each house has not a separate and distinct half, but an undivided moiety in both the wall and the soil on which it stands—the user of the wall by two proprietors being *prima facie* evidence of its being their common property.

The somewhat stale illustration of the nature of this property may as well be given first as last.

The showman BARNUM and his partner had an elephant used for exhibition purposes. The partner not handing over to BARNUM his half-share of the profits thus arising, BARNUM threatened if he did not do so that he would shoot "his half" of the elephant; but there his reading of the law was wrong, *he having no distinct half, only a moiety of the whole* which he could not damage without committing a wrong on his partner.

It seems to me, on the whole, that the law takes a common-sense view of the matter in assuming, in default of evidence to the contrary, that the ownership of each party is that of undivided moieties, for where a man builds two houses with a wall between them it is more reasonable to presume that he grants the whole wall in undivided moieties than that to either party should be given the power of cutting the wall in half; and the same reasoning holds good in the case of two persons building at the same time. The chances are that they would prefer to take a conveyance of an undivided moiety of the land on which the wall was to be erected, so that the property might afterwards remain in the same state.

In the case of a party-wall held under tenancy in common, what are the rights of the respective tenants in common, and what their liabilities?

Neither party may raise the wall so as to increase the burden upon it or interfere with his co-tenant's user without permission.

Should one tenant heighten the wall, the other may knock off or remove the addition.

On the other hand, he may rebuild the wall, if needful, without subjecting himself to action for trespass, though the text books do say that an action on the case in the matter of waste *might* lie under such circumstances, or in

any other where one tenant in common misuses the common property. In the case of a really bad wall I should risk such a chance. Sometimes it happens, as in *Steadman* v. *Smith*, that one owner makes such a use of the wall as to oust entirely the co-owner, *e.g.*, by putting a roof extending over the whole width of the top; in such a case an action for trespass is justified, as also if there is total destruction of the common property.

There is no common-law right to underpin or undermine party-walls, unless it can be done without injury to his neighbour's house (*Bradbee* v. *Christ's Hospital*).

It is the fact that, with the qualification hereafter referred to, there is *now* no reciprocal obligation on the part of the two tenants in common to repair or share the repairs of the wall.

This is, it seems to me, much to be regretted, more especially as up to the Act of 3 and 4 William IV., cap. 27, entitled "An Act for the limitation of actions "and suits relating to real property," a tenant in common could be compelled to fulfil his duty to contribute his share of repairs. Such an obligation, it seems to me, would work unmixed good. As matters now stand, Baron Pollock has said that, "where tenants in common are unable to agree "what repairs are needful, and how costs are to be shared, "the only efficient remedy can be attained by a partition" —a remedy, you will agree with me, often far worse than the disease.

The above statement seems to require modification to the extent that, though for *ordinary* repairs there *is no* obligation, where the repair is needful to prevent the absolute ruin of the property, all the owners interested may be liable to contribute, such a case coming within the principle of those decisions in which it has been held that, where outlay is in nature of salvage, all interested in the thing saved are bound

to contribute. In the case of *Leigh* v. *Dickeson*, referred to in a careful answer by Mr. A. Harston in "Professional Notes,"* the case of *Campbell* v. *Mesier* is cited as a case where, a ruinous party-wall being rebuilt by one owner with his new house, the adjoining owner was held to be bound to contribute rateably to the expenses, because it was absolutely necessary to have the wall rebuilt.

The Second Class. *Where the wall is divided into longitudinal halves, one half standing on the land of each of two adjoining owners.*

Where the boundaries of the land of adjoining owners is known, the common law on the subject is that the property in a party-wall built at joint expense follows and is the same as that of the land on which it stands—in the contemplation of the law, in fact, it is treated as if it constituted two distinct walls; and this is so even if the wall is bonded together and built as one structure. Supposing the land on which the wall is built belongs half to one and half to the other owner, each has a separate and divided ownership of the halves of the wall, and each for any injury done to the part standing on his own land has the ordinary remedy.

In this case, suppose one owner wants to add, say, a storey to his house he may raise upon his half of the wall, without asking any permission of his neighbour. He will be liable for any damage done to his neighbour's premises by anything he may do to the wall or if accident occur through its ruinous and unrepaired condition.

In the old text books you will find the case of *Wiltshire* v. *Sidford* referred to as exemplifying the fact that, in a case of this kind, either proprietor is justified in pulling down the portion of the wall standing on his own land, and that, although sufficient support may not be left for the portion which belongs to his neighbour, except, indeed, where there

* "Professional Notes," vol. iv., page 240.

are circumstances from which a *grant* of support may be implied, but I should be very slow, without legal advice, to adopt that course, after the House of Lords' case of *Angus* v. *Dalton*, wherein the right to support of land for buildings was upheld, and the argument and decisions in the subsequent case of *Lemaitre* v. *Davis*, whereby it was decided that, where ancient buildings belonging to different owners adjoin each other, there is a right of support *from the building* as well as from the land, and this right of support can be claimed under the Prescription Act (that is, by proof of twenty years' uninterrupted user up to date of action brought) if the enjoyment of the right has been open and not surreptitious, and I was glad to see that my view is supported by Mr. HARSTON's reply in "Professional Notes," already referred to.

It seems to me that, taking the view of the law for the moment, and regarding a party-wall of the class we are considering as *two* walls, there must be after twenty years' lapse of time an acquired mutual right of support, unless, indeed, the wall is so thick that half of it has a sufficient thickness and strength to stand alone. And even before twenty years, where such an ordinary wall (*i.e.*, one of which the half would not safely stand), it would be very difficult to negative the presumption of a grant of a right of mutual support at the time the wall was built, say, to serve the two houses equally. This difficulty is increased where the two premises have belonged to one and the same owner; the legal presumption in that case being that, when the owner granted away the house to which either of the "walls" is attached, he reserved to himself a right of support for his own house adjoining, and therefore conferred upon his grantee a similar right for the house granted to him, as an easement of necessity.

Of course, if a man erects a wall half on his own and half on your ground, you may pull down what is upon your

land, though in so doing the remainder tumble down, and if one owner raise a wall on both moieties, you may remove the part erected upon your own; but where a wall has long stood between two premises built on the lands of two owners, it seems to me, in the now settled recognition of a possible right of support, we must treat it for practical purposes as coming under what Mr. Justice FRY in 1880 (that is, before *Dalton* v. *Angus*) made his fourth division, but which I prefer to deal with here, *viz.: A wall longitudinally divided, each moiety being subject to an easement of user by the owner of the other moiety*, and in such a case neither owner can pull down his own portion of the wall without being liable for disturbing the rights of the other. In ordinary cases of premises let on lease where the lease plan shows the demised premises coloured to the centre of party-walls or with the familiar dotted lines, we shall generally be right, outside the Metropolis, in treating the party-wall as a wall held by two owners in severalty, but with cross rights of easement.

I should perhaps add that this assumption may have even a wider application than to those cases only where the limit of land is known, for in the case of *Wiltshire* v. *Sidford* preference was given to such a divided ownership with cross rights of easement over the assumption of a tenancy in common, as a tenancy in common implies a right of partition which, if exercised, would destroy the very state of things the legal assumption is intended to establish.

Custom will also, probably, add further party-walls to this division. Mr. HARSTON refers to a case, not yet reported, where, though a wall was built half on the ground of each of two adjoining owners, it was held that that there was on this particular estate a reasonable custom, known to the parties, whereby the rights and liabilities of adjoining owners were governed, and whereby there was a right to contribution for repairs or rebuilding.

Our consideration has now led us to two leading preliminary questions:—

1. Whether the limits of land are known or unknown?

2. Whether there is, or is not, an easement of user or of support? And it is worth repeating that disagreements which have arisen with respect to party-walls have largely depended upon such a right or easement.

4. The other remaining class (borrowing again from Mr. Justice FRY) is where the term "party-wall" is *applied to a wall which belongs entirely to one of two owners of adjoining land, but which is subject to an easement of user belonging to the other.*

The rights here of the parties, of course, are very unequal; the owner of the dominant tenement has the right to use, but he cannot increase his use without consent—cannot deal with the land under the wall, cannot hamper the adjoining owner in his use thereof so long as the limited user is maintained and provided for.

On the other hand, an easement of this kind is a very awkward thing to have to deal with, and we must all be on our guard against acquiescing in the acquisition of such a right by seeing that, if user is permitted, an acknowledgment is given that it is so by license and not as of right. Similarly, in a purchase or sale or the creation of a tenancy, it is a wise precaution to insist on some definite understanding to be embodied in the deed or other instrument, to obviate the uncertainty which might otherwise exist as to the intentions of the parties as to the party-walls.

Party-fence walls will detain us but a moment or two.

There is no radical distinction, so far as I know, to be drawn between a wall dividing two enclosures of land and one dividing two premises, except such as is created by express enactment, wherein (as in the Metropolitan Building

Act) party-fence walls are now by implication exempted from the operation of those clauses affecting party-walls.

With party-fence walls, as with party-walls, questions of limit of land and boundaries, as to who originally constructed the wall, and acts of ownership will be, as before, material.

Party-Walls and Party-fence Walls under the Building Acts.

We now come to the consideration of party-walls where statute law is in operation, and I am, indeed, puzzled to know what to select from the many points which arise.

Before, however, passing to the Metropolitan Building Act of 1855, and Amendment Act, 1882, which, for practical purposes embody the views of the law which those of us who are London surveyors are called upon to interpret and to administer, I cannot resist the temptation to take you with me for a hurried survey of the various stages through which the legislation affecting party-walls and party-fence walls had passed previous to these enactments, from which survey it will be evident that, if our present law is not wholly satisfactory, it is not for want of many attempts to make it so.

The retrospect of the history of party-walls affected by statute commences with the Act for the rebuilding of London after the Great Fire.

It has been very interesting to me to trace the course of legislation, and to see how difficulties in practice were met, one by one, by new provisions. I do not propose to go into much detail as to the early Acts, because one is apt to remember a clause, but to forget that it formed part of an Act long since repealed. The extracts will therefore be confined in the main to points bearing upon matters to be hereafter discussed.

The Act of Charles II. did not contemplate inde-

pendent walls at all, but enacted that there should be "party-walls" and "party-piers," set out equally on each builder's ground, to be built up by the first beginner of such building, and that convenient toothing be left in the front wall by the said first builder.

The surveyors appointed by the Act to supervise the rebuilding of the City were entrusted with the duty of seeing that no man built on the said party-wall, or on his own contiguous ground, until he had repaid to the first builder "the full moiety of the charges of the said party-"wall and pier, with 6 per cent. interest from the beginning "of the first building." Any difference as to the cost and value was to be settled by the Alderman of the Ward, and if he could not "compose" the difference, then by the Lord Mayor and Court of Aldermen.

There is a schedule to this Act of sizes of piers and thickness of walls, the only noteworthy point about which is that the party-wall was often allowed of less thickness than the external walls.

The next Act was in the 6th year of Queen Anne, and made the schedule more stringent, the preamble stating that there had been many fires.

In the following year a further Act was passed (7 Queen Anne, cap. 17), and the description of party-walls as to be "wholly of brick or stone" is qualified by the exception of doorcases, windows, lintels, brestsummers, storey posts and plates.

To those who are familiar with the crude provisions of the previous enactment, a portion of the preamble of the 9th section of this Act will not cause surprise: "And "whereas many suits of law have been brought about differ-"ences in party-walls"; it then proceeds to enact that all party-walls that should thereafter be built should be built nine inches on each man's ground, whether the old

party-wall be brick, stone, or timber, and gives the first builder power to pull down the same and build up a new party-wall, to be paid for by the owner of the next house (at £5 per rod) as soon as he has built the wall.

The Act of 11 George I., cap. 28, was the first Act which provided any procedure at all analogous to our present Acts. "Divers doubts and disputes having arisen touching "the power of the first builder to enter adjoining house, "to shore and support the same, &c., &c.," and other doubts and difficulties, additional provisions were enacted, amongst others a three months' notice is provided for, to be used only when the parties cannot or will not agree.

Instead of surveyors, as at present, each party, after notice, had to appoint two workmen to inspect and certify to Quarter Sessions if the wall was ruinous or ought to come down. Doorcases, windows, &c., previously allowed in party-walls were now prohibited, except where the two buildings were really united.

Section 7 deals with cases where houses are built on a new foundation, standing alone, and enacts that any person, after the building of a house with its own walls, building upon the ground next adjoining thereto may not make use of or take the benefit of the party-wall or fence-wall, or on any account whatsoever lay wood or timber, or cut into such party-wall under a penalty of £50.

The Act of 33 George II., cap 30, which applied to the City of London and the liberties thereof only, reviewed the last Act and extended its operation to cases where the rebuilding of a party-wall was desirable apart from the rebuilding of either or both houses, and, as in practice it had been found that the two British workmen appointed on each side did not agree upon their report to the Quarter Session, but were often equally divided in opinion, provision was made for a 5th

"able workman" to be called in to make an odd number, so that there should be a majority one way or the other.

The Act of 4 George III. similarly dealt with the City of Westminster and other parishes.

A further Act was passed in the 6th year of George III. giving additional powers of access where it was refused. Clause 2 enacted that "after any house or other building "is erected, any person who shall build next adjoining thereto "and make use of the party-wall thereof, shall pay to the "person or persons who hath the property in such wall one "half of the value of such wall *or of so much thereof as such "person shall make use of*, to be estimated and determined "by two indifferent persons." Hitherto, if such a wall was used, in part only, the full moiety of the cost was nevertheless payable upon such limited user.

The Act of 12 George III., cap 73, consolidated the regulations of previous Acts for the better regulation of buildings and party-walls within the City of London and other parishes of the Metropolis.

Party-walls were still to be built half on each owner's soil, but the thickness was, curiously enough, regulated by the cost of the houses to build and finish.

The owner of land adjoining to a party-wall, flank or side wall, or walls already built, might cut into same after he should have paid the full and due proportion of the charges of building the same.

And, where one builder was about to build a wall, the adjoining owner might require him to build chimney-breasts for adjoining occupier's future building, only, if he did so, the adjoining owner was thereby deemed to have made use of the wall, and thenceforth became liable for the cost of the chimney-breasts and one full moiety of the expenses of the whole of every wall or walls on which such chimney-breasts were erected.

This Act provided two forms of party-wall notice, in each a period of three months—the first to apply where the wall was infirm, the second for the substitution of a brick party-wall for a timber partition.

These notices were, however, only required in cases where the adjoining owner "will not," or "by disability cannot, "agree" touching the pulling down or rebuilding of such party-wall.

One moiety of the cost of building of all party-walls, flank or end walls, was to be repaid to the builder by the adjoining owner entitled to the improved rent, and, in the case of a party-wall built against a house adjoining thereto, the costs of shoring the said house and of removing goods, furniture, or other things, including the pulling down and contingent expenses actually incurred, were to be added to the cost of the wall itself.

This Consolidation Act had only a brief span of existence. Two years later it was repealed.

The Act of 14 George III., cap 78, which superseded it, was a very important Act. By it buildings were divided into seven classes or rates.

In this Act buildings adjoining each other with independent walls were for the first time contemplated, and for the first time iron doors were required to openings in party-walls.

Section No. 28 determined for what purposes a party-wall might be cut into *without notice*, viz., for inserting the end of a new back or front wall, a brestsummer or storey posts, tailing in stone steps or stone landings or timbers for bearers for wood stairs, stone corbels for chimney jambs, girders, beams, "purlings," binding or trimming joists or other principal timbers, perpendicular recesses into any party-wall not less than 13 inches thick, for walls and piers thereon (subject to restrictions), and for cutting off footings. "But

" any person who shall cut into a party-wall for any of the " purposes aforesaid shall immediately make good and well " and effectually pin up with brick, slate, tile, shell or iron " bedded in mortar every defect which shall be occasioned by " the cutting of any such party-wall; and no party-wall " shall be cut for any of the purposes aforesaid, if the cutting " thereof will injure, displace, or endanger the timbers, " chimneys, flues, or internal finishings of the adjoining " buildings."

Party-walls might be raised if when so raised they were conformable to the Act.

If the owner on the other side make use of the raising he must contribute to the expenses.

The form of party-wall notice is much the same as before, only it is important to remark that *party-fence walls* were included as well as party-walls and party-arches. These party-fence walls might be raised by the owner of one side, but were not to be used as party-walls unless of sufficient thickness. If not so, one owner might pull down such fence wall or fence, and build a party-wall in lieu thereof, not projecting more, however, than 7 ins. beyond the centre line. The adjoining owner must contribute to the expense if he use it other than as a fence-wall.

We now come to the last of the Acts no longer in force, viz., 7 and 8 Vic., cap. 84 (1844). For the first time we get a definition of what a party-wall is, and this definition, as also the definitions of building and adjoining owner, are continued in effect in our present Building Act of 1855. The provisions of the Act apply to the reparation, rebuilding, and raising of party-fence walls, in respect of which a notice is required to be given of either one or three months.

The Act assigned to official referees and district surveyors many of the duties which now devolve upon the "three surveyors."

It is worthy of note that in the case of rebuilding a sound party-wall by a building owner, this Act threw upon him not only the whole cost of the wall and of making good to the adjoining owner's premises and the payment of all surveyors' fees, but it gave to the adjoining owner a right to "such reasonable compensation as to the said official "referees may seem proper for any loss which the adjoining "owner shall have incurred by reason of such work."

The Act also dealt with a subject which is still a source of some difficulty, viz., the building of an external wall against a party-wall, and the subsequent rights of the parties in the old party-wall left standing, and in the ground upon which it stands, matters which, within certain limits, were left to the determination of the official referees.

Section 31 allowed party-walls to be raised, and, as in previous Acts, gave a clear and unmistakeable right to the original adjoining owner to use a raised party-wall, and a clear and unmistakeable right to the original building-owner to be repaid a proportionate part of the cost for the portion which was so used, and of the chimney-stacks belonging thereto.

The powers given in the previous Act with regard to party-fence walls were largely continued in the Act under consideration; and, in the main, I think, were reasonable and useful provisions.

A building-owner before building on a vacant site, where the adjoining site also was vacant, had to give previous notice to the adjoining owner, and, if the latter so elected, the building-owner was bound to build his wall as a party-wall, a clause the repeal of which there is no reason to regret.

Having now completed the retrospect, which will not be thought, I hope, unsuggestive, we turn to the Acts now in force.

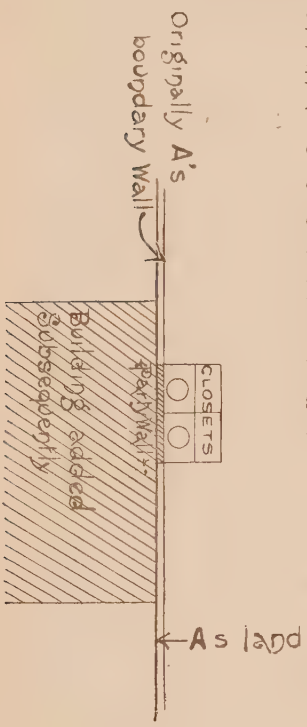
What is a party-wall under the Building Act?

The Act supplies the definition:—

"Party-wall shall apply to every wall used, or built in "order to be used, as a separation of any building from "any other building, with a view to the same being "occupied by different persons."

The first remark one has to make on this definition is that it seems to put out of court all questions of position of the wall relative to the actual boundaries of the parties' land, and of who was at the expense of the erection of the same.

In dealing with party-walls, under the Metropolitan Building Act, it is not needful to determine, it would seem, as a general rule, whether the parties have divided or undivided moieties in the wall; whether the wall is the property of one party with an easement by the other of user; or whether the wall is used by two owners as tenants in common, all which considerations are, as we have seen, material in questions affecting party-walls, in districts where the common law and not statute law is in operation. But if in part a wall is a party-wall, is the whole of a wall of necessity a party-wall? *No.* The case of *Knight* v. *Pursell*, Law Reports, 11 Chancery Division 412, which a rough imaginary sketch will illustrate, will show this point.

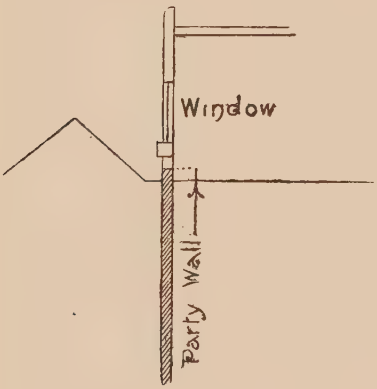


It was there held that, *so*

far as those buildings extended on *both* sides of the wall, it was a party-wall within this Act.

Then as to height.

The Bristol case of *Weston* v. *Arnold,* Law Reports, 8 Ch. 1084, is given in the Digests as useful, though only by analogy. It was a case under a Local Improvement Act, and it was held that a wall might be a party-wall to such a height as it is common to two buildings, and cease to be a party-wall for the rest of its height.



The following words are in the Report:— "There is nothing in fact "or in law to make it impossible or improbable that a "wall shall be a party-wall up to a certain height, and "above that height be the separate property of one of the "owners."

In view of the Metropolitan Buildings Act definition of party-wall, I do not see how the upper part can be said to be "used" or to be "built to be used" to separate, with a view to occupation by different owners, and therefore be a party-wall, but in the face of the recent case of *Williams* v. *Bull,** to be hereafter referred to, it would seem the upper part of a party-wall must be so regarded, for the present, at all events.

A difficult case on this point came under my notice recently, and I had hoped there would have been a decision of the Court upon the questions involved. The matter, however, was ultimately settled.

* See page 89, *infra.*

The sketch (fig. 1) explains itself:—A is a high building to the right, with a lower building B, adjacent thereto, with chimney breasts (evidently built as part of the party-wall), the first floor running to the party-wall and carried by arches, the ground floor of the lower building stopping short, and a public passage way running between. Is the wall from C to D a party-wall? If so, who is the "owner" on the side of the wall next B? If the owner of B desires to erect a high building requiring a party-wall thicker than C to D, can he thicken it and if so, how? Has the owner of A a right to open a return front to his shop?

My opinion is that, *apart* from some evidence as to the wall having been built at joint expense (which would, if forthcoming, I take it, be liberally construed as sufficiently meeting the Act), or, apart from very conclusive evidence as to limits of land, *or, as in the case in point, express agreement,* the part of the wall C D is *not* a party-wall, but belongs to the building A, subject to a right of user and support to the party-wall above D. If this is so, then I doubt the right to increase the burden on the owner of the building A by building a thicker wall, and, providing the rights of support are respected, I consider there could be no objection raised to the opening of a return shop front.

How far does a party-wall extend in a longitudinal direction when the back and front walls of two adjoining buildings are in the same plane? This question becomes important when a new front is added to a building, involving cutting and bonding into the dividing walls on both sides. The usual view is, I think, that the party-wall extends from front to back, and not in between the walls.

2. *Rights of Building and Adjoining Owners.*

The Act defines for us who are owners, and who are building and adjoining owners ("owners" being used not in its strict sense, because there is no individual ownership).

"Owners" applies to every person in possession or "receipt either of the whole or of any part of the rents or "profits of any land or tenement, or in the occupation of "such land or tenement, other than as a tenant from year "to year, or for any less term, or as a tenant at will": the owner, desirous of executing any work in respect of the party structure, shall be called the "building owner," and the owner of the other premises shall be called the "ad-"joining owner." These definitions have given rise to many disputes, and been the subject of several reported decisions, which can be seen by reference to a Digest, but I must not enter into the discussion of these except to say that from the comparison of such cases as *Hunt* v. *Harris*, and *Fillingham* v. *Wood*, it would seem as if a person may be an owner so far as the rights given by the Act are concerned, and yet not be the "owner" to whom the liabilities imposed by the Act attach.

1st. Before the wall is built.

No one owner on a new foundation may erect half his flank wall on his neighbour's vacant land, *Barlow* v. *Norman*, and not only if he does so may his neighbour use it without payment, but he may remove the part standing on his ground.

2nd. When the wall exists as a party-wall.

The Act defines the rights of building and adjoining owners, and it is most important that these sections should be carefully studied in the light of the case of *Stokes* v. *The Standard Bank of South America*.

One often hears it said that where the Building Act Clauses are not specific the "owners" must find their rights and remedies at common law. But if this case is a case which will be acted upon, as I know it is being acted upon, in the Courts, it is needful that we should learn that the rights given by the M. B. Act are *in substitution* of

those which existed at common law, and are *not* merely an addition thereto. The rights given to the Building Owner, "are the *only* rights he has, and where by common law he "has in ordinary cases a right, he has *not* in the Metropolis if "the common law right is not covered by these rights."

It is very necessary, I have said, to be clear on this point, and I feel that a proper understanding of the principle will so greatly help anyone dealing with questions under the Act, that I venture to call attention to the treatment of the subject of party-walls in the Text Book of Mr. Banister Fletcher on the Metropolitan Building Act. The case of *Watson* v. *Gray*, to which we have already referred on the question "What is a party-wall?" is quoted at length as likely for a long time to be the guiding case. If I understand this at all, it was a Middlesborough case, and so far as its decision and principles are concerned was a case of common law right, and common law rights being superseded by the M. B. Act one would think this was just the case which ought to have been omitted or else should have been very carefully safe-guarded by explanation in the text.

In 1879 Mr. Blashill read before the Architectural Association a Paper on the subject of party-walls, and upon that Paper I have based the remarks upon rights and liabilities of building owners which follow.

We find the rights of the Building Owner defined in the 83rd Section; the 88th Section regulates the apportionment of the costs of what may be done, and it will be convenient to read the two sections together.

The building owner may repair any party structure that is defective or out of repair, and the cost in such case must be borne by the two owners in due proportion, regard being had to the use which each makes of the structure.

I may here say that without notice a building owner, it seems, cannot do anything to his own side of the wall, even

if it belongs wholly to him and yet is a party-wall under the Act. This seems hard.

2. A building owner may pull down and rebuild a party-wall if it is so far defective or out of repair as to make it necessary or desirable, on the same terms as to cost.

3. He may pull down any timber or other partition dividing the buildings that is not conformable to the Act, or to either of the older Building Acts which next preceded this Act, and build a proper party-wall instead, each owner bearing his due proportion of the cost according to the use he makes of the wall, and also as to the thickness of wall which his building requires.

I conclude that the additional thickness may be halved between the two owners or divided in proportion to their use thereof.

4. In the case of buildings having rooms or storeys the property of different owners intermixed, a right to pull down such of the said rooms or storeys, or any part thereof, as are not built in conformity with this Act, and to rebuild in conformity with this Act, on the same terms as to cost. This clause seems to require further explanation.

5. A right to deal with buildings communicating over public ways.

6. A right to raise at the Building Owner's expense any party structure, permitted by this Act to be raised (that, I take it, means when, by raising the wall, the lower part is thick enough to pass the schedule for such heightened wall), or any external wall built against such party structure at his own cost, and upon condition of making good all damage occasioned thereby to the adjoining premises, or to the internal finishings and decorations thereof, and of carrying up to the requisite height all flues and chimney-stacks belonging to the adjoining owner, on or against such party structure or external wall.

In the case of *Stokes* v. *Standard Bank*, the word "raise" was interpreted as wide enough, in conjunction with other clauses following, to cover lengthening the wall in a *downward* direction.

7. He may pull down any party structure that is of insufficient strength for his intended building, and rebuild it of sufficient strength, on the like condition as to cost and as to making good damage to adjoining premises, or to the internal finishings and decorations thereof.

8. He may cut into any party structure at his own cost, and on condition of making good damage to adjoining premises.

9. He may cut away any footings, chimney-breast jambs or flues projecting from the party-wall, in order to build an external wall against it, or for any other purpose, on the same conditions as to payment of cost and damage. And, although they are upon his side of the wall, he cannot deal with them without a proper award under the Act, nor cut away the shafts or chimney-breasts without the certificate of the district surveyor.

10. A right to deal with a wall overhanging the ground of building-owner.

11. A far-reaching clause, giving a right to perform any other necessary works, incident to the connection of a party structure, to premises adjoining thereto.

Some of the liabilities of a building-owner have been referred to. It may be added that he will be held liable for all unnecessary damage (*Bower* v. *Peate*), and for the result of neglect or of unworkmanlike procedure. On the other hand, he is not liable to protect the rooms of adjoining owner (*Thomson* v. *Hill*); there is no such duty either by common law or by statute.

Section 83 throws upon the building-owner express and specific duties, but tarpaulins are not mentioned, and they

cannot be implied from the general words of the 85th section, which refer to unnecessary inconvenience.

It is important to note that when a party-wall is rebuilt by building-owner, *where so far defective as to make it desirable or needful*, there is *no* obligation upon him to make good any damage incident to such rebuilding to adjoining premises. Nor is this expense to be shared by the building-owner, as the damage is not caused by the execution of works for the sole benefit of the building-owner. There is no such statutable liability imposed on him, and the Act draws a distinction between the expense of rebuilding, and that of remedying the consequent damage. A building-owner is authorised to reinstate a party structure, but he is not compelled to do more (*Bryer* v. *Willis*).

Is an adjoining owner entitled to compensation? In rebuilding a sound party-wall, *under* 7 & 8 *Vict.*, *c.* 84, the fees of surveyors and special referees, also such reasonable compensation as the said official referees may deem proper for any loss which the adjoining owner shall have sustained by reason of such work, as we have seen, were allowed, but this section is *not* contained in M.B. Act, 1885.

The other clauses relating to the rights and liabilities of adjoining owners, contained in the Act, do not seem to call for any special comment, but one question remains to be considered under this head, and it is one which I approach with very considerable difficulty.

It is in relation to the rights and liabilities of building owner and adjoining owner in a new party-wall built to an increased height at the building owner's expense. The report of the recent case of *Williams* v. *Bull*, which I have extracted from the *Estates Gazette*, 22nd February, 1890 (as it seems not to have got into the authorised Reports), will best set forth the problem, and it is so important and interesting a question that I think you would wish me to

read the Report in full instead of summarising it. By the courtesy of Mr. Wm. Yetts, F.R.I.B.A., who acted as surveyor to the defendant, Mr. Bull, I am enabled to illustrate the case with a drawing (fig. 2), and to supplement in some directions the Report itself.

Williams v. *Bull.*

The Met. Building Act.—External and Party-Walls.

This was an action of trespass for interfering with the external wall of the plaintiff's house (366, Bethnal Green Road).

The trespass consisted in cutting into the plaintiff's wall, and building a house against and upon it.

The facts of the case raised an interesting question under the Metropolitan Building Act, 18 & 19 Vic., cap. 122.

On May 29th, 1884, the plaintiff served on the defendant a notice under the Metropolitan Building Act, that he intended to pull down and rebuild the party-wall then existing between the houses of the plaintiff and defendant, and in pursuance of that notice he pulled down the wall.

The plaintiff then rebuilt the wall (at his sole expense), partly on his own and partly on the defendant's land, to a greater height than the defendant's house.

On February 6th, 1885, the defendant served on the plaintiff a party-wall notice, and in pursuance of that notice he pulled down his own house, 368, Bethnal Green Road, erected a new house, raising it to a greater height, and for that purpose cut into and used the external wall which had been previously raised by the plaintiff.

The wall was built for half its thickness upon land of the defendant's, and it was therefore contended on his behalf that it was a party-wall.

The plaintiff on the other hand contended that it was an

external wall, and the defendant was not entitled to make use of it without paying for the portion of the wall so cut into and used by him.

For the plaintiff, Mr. Beven argued that the wall in question, so far as as it did not separate buildings, was an external wall and not a party-wall, that the provisions of Part 3 of the Metropolitan Building Act did not apply in the absence of a notice by the defendant under the Act specifying the wall the defendant cut into, and that a wall might be a party-wall for some of its height, and above that the property of the adjoining owner. The defendant had no further rights than were given by the Metropolitan Building Act, the effect of which was to limit the right of owners in the interests of the public. Whether the wall was half on the land of the defendant was immaterial, for the external wall was by statute, for the purposes of the present case, the property of the plaintiff.

For the defendant, Mr. Morton Smith argued that the case was covered by Sections 84 & 93 of the Metropolitan Building Act (18 & 19 Vic., cap. 122).

The adjoining owner is only liable for expenses incurred by the building owner upon his requisition.

When a party-wall which is not defective is pulled down and heightened, the building owner must incur all the expenses.

In giving judgment for the defendant, Mr. Justice Mathew said he could not find any grounds of the liability for which the plaintiff had contended. *The sections of the earlier statutes referred to had been repealed,* and were not incorporated in the Metropolitan Building Act.*

* This is most important. Section 31 of the previous Building Act, 7 and 8 Vic., cap. 84, reads thus: "And with regard to any building "raised, so far as relates to the use thereof by the adjoining owner, "that if at any time the owner of any such adjoining building make "use of any portion of the part raised of such party-wall, by building

Under the Building Act, 1855, Mr. Justice MATHEW said the whole measure of liability was that, where any building owner had incurred any expenses on the requisition of the adjoining owner, the owner making such requisition should be liable for all such expenses. To say that the expenses were not to be borne by the building owner seemed to be supplying in the Building Act what was not there.

Judgment for defendant with costs.

I should call your attention to the unusual way in which the original Building Owner raised the party wall. If the matter had been dealt with by means of the third surveyor procedure, as in strictness, no doubt, it should have been, it is exceedingly unlikely that the award would have allowed the raised portion to be erected flush with the adjoining owner's side of the wall. I am informed, however, that though this point was raised by the statement of the facts of the case, the Court based its judgment as indicated in the Report, and not at all upon the position of the raised wall relative to the boundary line of the two properties.

The first remark one has to make upon the decision is that if it is correct, then the *practice* is utterly at variance with what is legally correct; the second, that it is unfair.

If the now building owner wants to use what his neighbour has been at large expense in erecting, he ought to pay for it; and it is no real answer to such a feeling of justice to say the now adjoining owner erected the wall at his own expense for his own convenience.

Again, in the event of the wall in question having been built as a new wall, to replace "one so far defective, &c," there is manifest injustice.

"against it or otherwise, it shall be lawful for the owner of the "premises so raised to claim, and he is hereby entitled to recover, "the cost of a proportionate part of the portion which shall be so "used, together with the costs of such parts of the chimney-stacks "as belong thereto."

Take a concrete example:—

A's building is five stories high and 35 feet long; *B's* building is but three stories high. The wall is rebuilt. *A* pays say eight-tenths of the cost, supposing the stories to be equal in height. *B* pays two-tenths. Now *B* adds two stories to his building, and gets a party-wall for five stories at an expense of only two-tenths of the cost thereof, *B* having had to pay eight-tenths for the same accommodation; whereas, if at the time of rebuilding, *B's* building had been five stories high, each party would have borne his fair share of the cost of the wall.

On moral grounds, therefore, I regard the decision as unfortunate; at the same time, there is a good side to it, for now the original adjoining owner has some right in the raised wall, which, it seems to me, he hardly had before; for taking the view that the wall, from the height of 1 ft. 3 in. above the lower building upwards is an "external wall" and not a "party-wall," what right has the owner of the lower building to serve a party-wall notice, or to use such wall at all against the wish of the owner of such external wall?

Be this as it may, the moral of the uncertainty appears to me to be that, until the law is amended or authoritatively expounded, it is most desirable that when any party-wall is raised it should be determined under what conditions the adjoining owner may use the raised wall, or some agreement independent of the award be arrived at between the building and adjoining owners on the subject.

Upon party-walls as dangerous structures I have little to say. First, the condemnation of a party-wall as "dangerous" acts as waiver of the three months' notice as well as rendering the adjoining owner liable for expenses of wall rebuilt, hence the well-known, but discreditable, practice of endeavouring to induce a district surveyor to condemn a doubtful wall as dangerous.

I may refer to one difficulty I have observed in practice—the case where the County Council serve dangerous structures notice upon premises held by a lessee for a short remaining term of years with no covenants on the part of lessor or lessee specifically referring to party-walls. The County Council serve the occupying lessee. In such a case, though probably not liable, at all events not to the full extent, to his landlord, the onus of complying with the notice lies upon him, and if, in default, the County Council do the work, he is saddled with the expense, for in such a case the "one owner" cannot require that the other owners shall be summoned (*Debenham* v. *Board of Works*), with or without the vexation attendant upon summons for recovery of the same and penalties, &c., while he has no very long term or considerable interest in the premises, and little prospect of recovering the money from his lessor unless by means of more or less costly and uncertain litigation.

Probably the path of wisdom in such a case, although not one relished either by the surveyor or his client, is either to do no more than absolutely needful to comply with the notice, or make the best terms with the lessor. If the outlay is serious a lessor can often be persuaded into granting an extension of term. If so, the hardship, as it is thought, is less felt, probably, on both sides.

We now come to *party-wall procedure.* I think a separate evening might well, at some future time, be given to this part of the subject, and I can only now touch on one or two points.

Does the service of a three months' notice itself, without an award, give a right to do *any* works to the *wall*, in the event of a difference arising by dissent or expiration of the fourteen days? This is a difficult question. Many surveyors will tell you "yes," a right to do works described in Section 83, sub-sections 8, 9, 10, viz., Such works on

his own side of the wall as will not interfere with the adjoining owner and in doing which the building owner must exercise great care, as he will be liable for any damage.

There is no doubt that under the former Acts there was some such power, and it would be a very convenient doctrine, and one which has, I think, a balance of argument in its favour; but to consider that there is still such a power I cannot believe to be correct, in view of the seventh clause of Section 85, which implies the necessity of a proper award by one, two, or three surveyors, and in view of the proceedings in *Stokes* v. *Standard Bank;* unless the words of the section "in all cases *not* specially for" can be construed to exclude the works named in the above sections, and I confess the signification of these words is not clear at all to me. The judge in *Stokes'* case said: "The Act gave the three "surveyors power to determine the time and manner of doing "any work, and it would be reducing the Act to an absurdity "to suppose that the building owner had a right to proceed "with the work until they had so determined."

One or two questions arise upon the *reference* and *award*. In passing we may note, that when two surveyors appoint a third surveyor, all three surveyors are *equal*, the third surveyor is not an umpire, and has no power to decide anything apart for one or both of the two surveyors. This is as clear as anything can be, but I think your experience will bear me out when I say that in five cases out of ten the third surveyor is treated as umpire, and often makes his award as such, even when well acquainted with the Act. I have an award, signed by a well-known district surveyor, as third surveyor, from which I extract the following words:—"Now, "I, having taken upon myself the office of third surveyor ". . . as aforesaid, do hereby determine and award "between the parties as follows."

The second note is that, although not necessarily called in, the third surveyor should be appointed by the two surveyors, as a *first* step, as no award they may make, not having done so, is safe.

3rd. It is not always remembered that the subject matter of an award upon a party-wall difference, apart from special authority, should be confined to matter of differences *under the Act.*

If there are matters in difference, or proposals for agreement, on matters of rights and liabilities, such as hoarding, compensation not claimable under the Act, &c., and we are authorised to deal with these, they should form a separate agreement, or a distinct portion of the award, and I doubt whether a third surveyor *could* be legally a party to an award dealing with such outside questions, though I am, of course, perfectly aware that it is very often done, and I have drawn up awards containing clauses which would not bear this test.

In conclusion may I, with great diffidence, submit for your consideration five suggestions for the emendation of the existing Acts:—

1. That there should be properly defined rights and liabilities in regard to the portion of a party-wall raised at the sole expense of a building owner, and that the provisions of the former Act, 7 & 8 Vict., c. 84, Section 31 (last part), quoted on page 80, *ante,* are convenient and equitable, with two *provisos,* first, that before the raised wall is cut into or used a month's notice be given, and second, that the contribution to be paid by the then building owner should be determined by the surveyors appointed.
2. That there should be a definite limit to the validity of a party-wall notice and a provision for a renewal for a limited time.
3. That a change of the building owner subsequent to

the service of a party-wall notice should be intimated to the adjoining owner, and that the new owner, by such notice, should be held to accept the liabilities attaching to the same, and continue the appointment of the surveyor made by the original building owner, and that the adjoining owner should have the benefit of Section 87 relative to the giving of security if required.

4. That to facilitate the execution of works to the building owner's side of a party-wall and other works, the proper execution of which will not, in the opinion of the surveyor or surveyors, prejudicially affect the adjoining owner, he or they be authorised to award that the building owner may proceed at once with such work, or after the lapse of such time as they may think fit.
5. That the provisions of the Act relating to party-walls, so far as they are applicable, be made to apply to party-fence walls, with a provision similar to the last suggestion for facilitating the work.

I must apologise for the length of this Paper, and can only hope that, if it leads to a pertinent discussion, you will not think your time and patience altogether wasted.

Mr. T. Chatfeild Clarke (Fellow), before moving a vote of thanks to Mr. Bedells for his Paper, wished to express, on behalf the Meeting, their pleasure at seeing The President once more restored to health and present in the chair that evening.

With regard to the Paper, he believed it was the feeling of many present on that occasion that a production so full of thought and suggestion should be carefully considered by the Members before being submitted to detailed discussion.

As to the moral bearing of these cases, when the facts

were clear, there could be little difference of opinion among practical men.

Where a man building next to the land of another who had erected a wall, refused to contribute in proportion to his user of that wall, it was not only unfair, but dishonest, and not in accordance with the practice recognised among surveyors for very many years past.

The hardship referred to in the Paper, of lessees with short interests being called upon to bear very heavy costs in connection with the renewal of party-walls, was familiar to many gentlemen in that room. But he thought the remedy lay very much in the hands of surveyors, who, when leases were drawn, should take care to see that such undefined liabilities were not thrown upon the tenants. He did not entirely agree with Mr. Bedells as to allowing certain works on one side of the wall where they did not appear to interfere with the adjoining owner. He thought that would be a very questionable power to allow without an award, and without a thorough investigation of the matter, and would be sure to create, in the end, litigation, trouble, and difficulty. He thought that most surveyors had now come to the decision that no act could be done to a party-wall without an award. Many years ago it was not so felt by many surveyors, but anyone reading the sections of the statute referring to the matter would agree with him, and with Mr. Bedells, that no act should be done to a party-wall without a competent award being previously given. He had sometimes been surprised to find well-qualfiied surveyors and architects going on without one, but of the necessity for it no doubt ought to exist after the experience of so many recent decisions. Of course, some of the sections of the Building Act relating to party-walls were not all one would desire. The revision of the Building Acts was now engaging the attention of

Committees of the Royal Institute of British Architects and of The Surveyors' Institution, and no greater service could be rendered to the Institution than the submission by Members of suggestions for curing the difficulties met with in practice. In conclusion, he would only add that if other young Members of the Institution would follow the example of Mr. Bedells, by reading practical Papers like that to which the Meeting had listened with so much pleasure, they would be reflecting credit, not on only themselves, but on the Institution. He had very great pleasure in proposing a very sincere and hearty vote of thanks to Mr. Bedells for his Paper.

Mr. P. E. Pilditch (Fellow) thought it might be considered appropriate that the vote of thanks to Mr. Bedells for his excellent Paper, which had been proposed by a Vice-President of the Institution, should be seconded by one of those who were contemporary with Mr. Bedells. He had had, he believed, the pleasure of passing through each examination in turn at the same time as Mr. Bedells, and they had been associated together in the foundation and establishment of the Junior Meetings during several years past, which made it an additional pleasure to him to second the vote of thanks. He thought the Members of the Institution were very much indebted to Mr. Bedells for his Paper. For himself, he was very glad that there had been included the interesting historical retrospect and sketch of foreign law relating to the subject of the Paper, because, he thought, Members were never so well able to appreciate fully and exactly the bearings and the difficulties of the clauses which they themselves, in the present day, and in this country, had to administer, as when they were able to compare them both with what had existed in the past and with what was the custom at the present moment in other

countries. No doubt Mr. Bedells was well advised in following the divisions of the subject laid down in Mr. Justice Fry's decision as to the common law applicable to party-walls, because, until this decision was altered by a judge, surveyors would find themselves to a large extent under the necessity of being guided by them. He did not know that these divisions could be considered as absolutely exhaustive; indeed, he thought that possibly there might be some other divisions made covering ground which had been partially covered by one or two of Mr. Justice Fry's divisions. As they stood, however, he thought the discussion that Mr. Bedells had initiated upon the four points so laid down could not fail to be of great benefit to those who practised outside the Metropolis, where, after all, the most serious difficulties occurred. The Metropolitan Building Act, in spite of all its uncertainties, was a very great guide to surveyors in London; but those in the country had nothing of that kind to help them, and Mr. Justice Fry had done much to elucidate the subject for country practitioners. He joined with Mr. Chatfeild Clarke in his suggestion that there should be an adjournment of the Meeting for the purpose of discussing in detail some of the points which Mr. Bedells had raised. There were several which he would have liked to call attention to, but he felt that at that late hour it would be out of place to go in detail into a discussion on those points. He would, however, venture to make a remark upon one only of them. He referred to the point raised by Mr. Bedells on page 2 of the Paper as to there being at the present time no obligation to repair, that was, no reciprocal obligation resting on the two neighbours on each side of a party-wall. He quite agreed with Mr. Bedells that it would be very desirable if there were that reciprocal obligation to repair; the absence of which was seriously

felt in some cases. The lack of any such obligation would seem to extend to allowing every owner, to whose interest it might be, to actually abandon a party-wall, thus, possibly, casting upon the owner to whom the wall was abandoned very considerable expense in the way of repairs, and also the *onus* of keeping up the wall during the time his own building remained, and, perhaps, of subsequently rebuilding it at his own cost. He himself had had a case quite recently, in which two old buildings had stood for many years, with an old party-wall between them, one of which buildings was taken down leaving the site vacant. Upon rebuilding upon the vacant site, instead of restoring the party-wall as it had stood, at joint expense, the building owner, to suit his own convenience, put up a distinct wall entirely upon his own land, and, there being no reciprocal obligation to repair, the owner of the old building was left with a defective party-wall full of old timber, and with the liability to bear the whole expense of the present repairs needed; of keeping the whole of the wall in repair until his own house was pulled down in its turn, and then, unless he could get the consent of the adjoining owner to use his new external wall as a party-wall, he would have to build a new wall completely, whether he wanted it or not. That seemed to him rather an objection to the present law on the subject, and he should hope that some such amendment as that suggested might be effected in future.

Mr. F. K. Munton (Associate) said there were some points upon which surveyors might render great service to solicitors. He had been in practice for many years, and had found how very little care was taken in the preparation of plans for leases, and other deeds, as regarded the indication of party-walls and fences. He himself had made it a rule to dis-

tinctly show on the plans, wherever practicable, to whom the party-walls belonged, and if surveyors would take every opportunity of spreading this practice he believed great good would result. In course of time one would thereby get rid of many of the troubles from which one now suffered, in attempting to identify the rights of adjacent proprietors. He happened, fortunately or unfortunately, to be the owner of considerable house property, some of it of an ancient character. In one street he held several houses, which he would call 1, 3, 5, 7, and 9. There was no record whatever as to whom the walls between those houses belonged. He found whenever one of such walls fell down (not a rare occurrence on account of their age) that the man who held the adjacent house insisted that, say, the north wall belonged to him (Mr. Munton), whereas when a wall further down the street fell, say, a south wall, the adjoining owner said he religiously believed that all the south walls belonged to him. In one way and the other he was thus expected to rebuild and repair both north and south walls! He was just suggesting that all the owners in the street should meet and agree upon a common plan showing distinctly to whom the several walls belonged, a trouble which would have been so easily saved by a little care in the first instance. Although most elaborate plans were often prepared, this point was frequently entirely lost sight of. In another property in which he (Mr. Munton) was interested, where certain alterations had lately been effected, he had suggested to the adjacent owner that they should mutually make notes upon the backs of their old title deeds, recording to whom the respective walls and fences belonged, and he was glad to say that his suggestion had been adopted. It was too late in the evening to dwell at length upon many of the points in the Paper to which he would otherwise have liked to call attention, and he contented himself with repeating that

surveyors had great power in their hands to lessen party-wall disputes in the future.

Mr. T. M. Rickman begged to move the adjournment of the discussion to the next Meeting.

The writer of the Paper was to be congratulated on the production of such an excellent contribution to the "Transactions," and his father, Mr. C. K. Bedells, on having a son so capable and so worthy of his name.

The vote of thanks having been put and carried with acclamation, the further discussion of the Paper was adjourned to the 4th January next.

No. 302.

AT

THE ORDINARY GENERAL MEETING

Held on Monday, January 4th, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

The adjourned discussion on the Paper read at the last Meeting by C. H. Bedells, entitled "Party and Party-Fence Walls," was resumed by

Mr. T. M. Rickman (Fellow), who said it seemed to him that many of the difficulties which occurred in the country with regard to party-walls arose from the absence of a Building Act, while many of those in London resulted from the fact that in the Metropolitan district there is a Building Act. The want of a Building Act in the country showed that it was a great advantage to have a special Act relating to party-walls. Common law rights as to the separate interests in party-walls were at present very confused and conflicting. Under the Metropolitan Building Act there was a joint ownership created in the whole and a *modus vivendi* established, which, in the absence of such an Act in the country, it was in some cases difficult if not impossible to secure. In the country he had known two $4\frac{1}{2}$-inch external walls built up against one another to form a party-wall to the height of several storeys—a most dangerous proceeding.

The Building Acts of London had arisen out of a statute passed soon after the great fire, and had from time to time been amended to meet the growing wants of the town. For

a long time houses in London had been built very much like one another; and though, in old times, there were differences in gables and various other architectural details, still, on the whole, the streets of London were for centuries built of houses very much alike in construction. They did not arrive at the absolute sameness of Gower Street, as he very well remembered it 30 or 40 years ago, but, on the whole, there was a very great structural likeness. There were streets of first, second, and third class houses; and when houses had been divided into these classes, the classification really embraced every variety of house that existed in former times in London, except public buildings or buildings erected for some very special purpose. Consequently, in the older Acts, this classification of buildings was perfectly serviceable for settling what sort of building was to be erected, and what sort of wall was necessary for it. But, gradually, new wants had arisen. Measuring surveyors had learnt that the old system of measuring and valuing, which applied to the sort of buildings erected under the old Building Acts, had to give way to a new system of measuring and valuing for a totally different class of buildings. Half a century or a century ago the class of work which was to be put into a building could be predicated beforehand without any difficulty. It was impossible now to say beforehand what sort of buildings the architects of the present generation would put up, and measuring surveyors had to meet whatever varieties were introduced. So in the case of party-walls, and of every detail which, under the Building Act, came under the cognisance of the district surveyor, they were constantly finding evasions of the Act. It was the business of the speculative builder, and of anyone who endeavoured to carry out a building different from the ordinary set of buildings, to find ways and means of getting round the Building Act. Consequently, a really good Building Act

must be one that would not merely meet such evasions, but also be adaptable to the new requirements of the day. It ought not to bind in iron fetters, but there should be a power of revision, from time to time, of the by-laws and all the minute details under the Building Act which required to be altered. Within the last few years a revision of the by-laws as regards details of construction had, by special Acts, been possible, and he hoped that in any new revision of the Metropolitan Building Act, power would be reserved to modify the by-laws from time to time, without the necessity of obtaining a new Act. He thought that there should be power to modify the strict rules of the Building Act whenever it was for the benefit of the public so to modify them. It was not for the advantage of the public, or of art, or business, that people should continue to build streets of houses all exactly similar to one another. It was, as a rule, to the advantage of an owner and of lessees of land to be able to erect the largest possible building upon a given site, either by increasing the height or by economising ground space to the fullest extent; and a Building Act, to come up to what he considered an ideal standard, should have a certain degree of pliability, so that the County Council, or whoever had authority, should have power to modify, from time to time, any by-laws which did not meet the growing requirements of the day.

A party-wall was the one part of a building which remained longer than any other part. The front wall of a building was often comparatively short-lived, because from time to time architects with new designs, and owners of property with new requirements, would alter or rebuild the front wall, while the party-walls remained unaltered, the consequence being, as was often to be noticed, that when a front wall was pulled down it was found that there was a vertical joint between the party-wall and the fronts, and often

also a vertical joint between the two abutting front walls. Moreover, the projections, such as chimneys built against the core of the party-wall, might be pulled down and rebuilt from time to time; and it was a matter of the greatest importance that there should be sufficient strength in the party-wall to enable it to stand without rebuilding in spite of alterations to the adjoining structures, and to continue to form an efficient division between the two buildings. In old churches the chancel arch was in point of fact a party-wall, and very ancient chancel arches remained in some of our old churches from similar reasons which prolonged the existence of very old party-walls between modern buildings. Sometimes the nave had been rebuilt and the old chancel arch left. The chancel had sometimes been rebuilt, and still the old chancel arch stood. He considered these sufficient reasons for enforcing an increase in the strength of party-walls, and it seemed to him to be a shocking thing that the piece of brickwork which formed the sole protection from fire or other danger between two houses should be nothing but a wall of 18 inches, or $2\frac{1}{2}$ bricks thick, and absolutely riddled with flues from one end to the other. In such a wall there was only, in point of fact, a half-brick on either side, and that half-brick belonged to neither of the owners. It was often hardly possible to say, when a building-owner drove a plug in, whether he would come against his own flue or the flue of the adjoining house; and he had heard district surveyors of great experience say that many of the fires which occurred in commonly-built houses throughout London arose from the strings of the staircase next the party-walls getting hot from the flues of the building on the other side of the party-wall.

There had lately been many suggestions for the improvement of the Building Act, and the subject had occupied the

attention of a committee of the Royal Institute of British Architects for a year or two past. One of the most important suggestions made by that committee with reference to party-walls was, that it was most desirable that flues in any wall should belong to the one side of the wall only, and not go nearer than 2¼ inches, or a quarter of a brick, to the centre of the party-wall, and that there should be no interlocking of the flues of one house with those of the other. If there were two sets of flues built against one another, well and good, because then there was the thickness of 3½ bricks, at all events, for the whole length of the breasts, and though there were two flues in it, still there was a solid body of brickwork between the one house and the other; whereas, if the flues of the one side went within half a brick of the face of the wall on the other side, the party-wall was practically destroyed for the purpose of preventing fire. The proposal, therefore, for getting over that difficulty was, that the flue on either side of the wall should not come within a quarter of a brick of the centre of the party-wall, although it was quite true that this would take up a certain fraction more space.

Another suggestion which he had heard made by men of great experience was, that there should be 9 inches between the face of the wall and the flue; but he was afraid that this would very greatly increase the expense of the wall and the space taken up. But for the purpose of strengthening the party-wall, and having an efficient fire-proof construction between the one house and the other, he would urge upon the Meeting the importance of the suggestion that either the recesses or flues on one side of the wall should not come within 9 inches of the other side, or else not within 2¼ inches (or 4½ inches, if possible) of the centre of the wall. There were really two centres of a party-wall. If the wall was a 14-in. wall

between two houses of equal size, the centre was 7 inches from either side of it. If it was a 14-in. wall, and the necessities of one owner required a 14-in. wall, while on the other side a 9-in. wall was sufficient, then the theoretical centre of that party-wall was $4\frac{1}{2}$ inches from one side and 9 inches from the other. But the centre contemplated in the suggestion referred to, was the absolute centre of the wall.

There were a number of other points of importance to be considered in a revision of the Building Act, and he had spoken on the subject of party-walls with reference to it because the revision of the Building Act was at the present time the most important matter before The Surveyors' Institution so far as regarded the building branch of the profession, and therefore he should be glad if, instead of discussing the curious or questionable cases that had arisen and the legal difficulties in working out the question of party-walls throughout the country, the Members would bring their minds to bear upon the importance of strengthening the hands of the authorities who were promoting the new Building Act, so as to include, if possible, a satisfactory provision with reference to party-walls in the Metropolis.

A point which he believed to be of importance was, that the length of party-walls should be reconsidered in the Building Act. It was, he thought, important that all provisions with reference to party-walls should apply to the *whole* length of the wall from the face of the front wall to the face of the back wall. Again, with regard to party-fence walls, it was a matter, he thought, greatly to be desired that the new Building Act should not exempt party-fence walls from its operation altogether. The reading of the existing Building Act was somewhat obscure on that point, but the intention was generally understood to be that party-fence

walls should practically be exempted from its operation. It seemed, however, very desirable that party-fence walls should be controlled by any new Act, and probably a reasonable recommendation would be that party-fences might be erected up to a height of five or six feet of any material, but that if they were all brick they should be erected in accordance with some schedule attached to the Building Act.

Mr. G. M. Freeman (Associate) said it was with some diffidence that he ventured to intrude at all in the discussion of a subject which was of so eminently technical a character, and with which many of the Members present were so much better acquainted than himself. He had read the Paper with great interest, and he thought it was certainly a valuable contribution to the "Transactions" of the Institution. With regard to the general question, he entirely agreed that the difficulties which arose with regard to party-walls were not so much on questions of law as of fact. The great difficulty under certain circumstances was on the question of what was a party-wall, and this question arose more particularly under two sets of conditions. In the case where a large sale of buildings to different purchasers had taken place it often occurred that the different parts became much intermixed, and one purchaser desired to pull down, while another wished to let his portion remain standing. Under such circumstances it was often difficult to discover what were the precise limits of the party-wall, because there was no exact definition of boundaries upon the deeds before the parties. He (Mr. Freeman) entirely agreed with what had been said by a speaker on the last occasion, that it would be an advantageous thing if, when properties were laid out and buildings were put upon them, more attention were given to setting out what were the

precise boundaries between adjoining properties. Very often comparatively a few minutes devoted to this end would have saved, in later transactions, enormous trouble and a great deal of expense in endeavouring to discover what were the rights of the parties.

There was another set of circumstances under which it was very difficult to find out what was the party-wall, and that was in the case of a mixed property, where there was one dividing wall between properties owned by different owners, going up from the ground level to the top. The writer of the Paper had referred to the case where a wall separated buildings up to a certain point, and then became the outside wall of the upper portion of one building which rose higher than the building adjacent to it. Everyone was aware that often very intricate questions had arisen on that point, and had been decided in various ways, so that there was great doubt as to how far such a wall is an external wall or how far it is a party-wall under which one's rights were clearly defined.

He would like, for his own information, to ask those gentlemen present who were so well versed in the matter, what was the position in the case of a building on one side and an open passage on the other, with rooms carried over the passage, and a house beyond that. It was perfectly clear that as between the rooms over the passage and the adjoining premises the dividing wall must be a party-wall; but what was the exact position of things as regarded the piece of wall between the adjoining house and the open passage way? Under the Building Act it could not, surely, be a party-wall, for it did not divide two structures intended to be occupied by different persons; but, on the other hand, it was quite impossible to deal with the piece of wall between the open space and the house as being absolutely one's own property, because, in doing so, one might jeopardise

the safety of what was undoubtedly a party-wall in the upper portion.

He (Mr. Freeman) thought there was, as yet, absolutely no decision as to what was the law as regarded the structure between the house on one side and the open space on the other, with a building over it. The question of how the wall is to be dealt with when in that position seemed to be one of those points which ought to be dealt with while the whole matter was under revision, so that there should be a definite rule laid down for the guidance of owners of such property.

There was another matter which had often seemed to him (Mr. Freeman) one of considerable difficulty to advise persons upon, and that was, when dealing with a party-wall (particularly the lower portion of it), with regard to the three months' notice. It seemed to him that the intention originally was that there should be a three months' notice, to enable the adjoining owner to decide whether he required anything to be done on his own side. No doubt there had been great divergence of opinion and of practice as to what one was entitled to do directly after the three months' notice was given. To take the case, which frequently arose, where a person was going to rebuild a large structure upon one side: it was not necessary, perhaps, to interfere with the actual body of the party-wall, but when he came to build he found footings extending, perhaps, for 9 inches or more upon his own side. Was he to be allowed to cut away those 9 inches at once, or was he to wait till the expiration of the three months' notice? That was a matter of absolute uncertainty, in which everyone did precisely what he thought right.

It seemed to him very necessary that the intention as to the three months' notice should be more clearly defined—whether it was that until it had expired a person was not to be entitled to touch any portion of the party-wall,

including the footings, or that he was to be entitled to do such necessary work as lay upon his own side, taking the ordinary risk—not an extraordinary risk—of damaging the adjoining property.

He did not quite appreciate the hardship which the writer of the Paper seemed to discover in the case of *Williams* v. *Bull.* It was assumed that the owner of the portion of the wall which had not been raised suffered a great hardship because a neighbour, building partly on his own land and partly on adjoining land, had raised that wall. It seemed to him that if anybody chose to raise a wall, partly upon his own land and partly on his neighbour's land, he must take the ordinary consequence of doing so: that is to say, if he chose, for his own convenience, to build a wall on land which did not belong to him, then he ought to give his neighbour some right of using that wall. It seemed to him that the Paper argued very much as if the builder of that wall had built it entirely upon his own land; but if he chose to get the benefit of using a portion of the wall which had been built already upon his neighbour's land, there was no hardship in his neighbour getting a certain right of user as to that wall without paying for it.

He thought that if in any Act, designed to simplify transfer, provisions could be inserted making it obligatory to define precisely where the boundaries were at the time when a change of ownership took place, that would be one enormous improvement. In the second place, he thought that it should be more clearly defined what was meant by the structure, whether it was intended to go from the foundation *usque ad cœlum*, or whether only so far as it separated two adjoining buildings; and he thought, also, that the rights of the building-owner and the rights of the adjoining owner, under the three months' notice, should be more clearly defined.

Mr. J. Douglas Mathews (Fellow) thought the reader of the Paper began very rightly by giving some account of the origin and history of party-walls. In the old days of timber structures no great trouble arose, but after the great fire, when the question of party-walls came to be considered fully, and when the use of brick was substituted for wood, the question of party-walls became a difficult one, and it had continued so ever since. Our forefathers evidently believed in timber more than in brick, and it was therefore considered necessary that at least 9 inches should be taken from each side of a plot of ground on which to build the wall. That continued for a considerable time, till party-walls became an acknowledged fact. When disputes arose on the point, they were referred to the alderman of the ward, and, if not by them decided, to the Lord Mayor. Finding this procedure not altogether satisfactory a subsequent Act put the matter into the hands of two workmen on each side, to say whether a wall was a sufficient or sound wall; but it was sometimes difficult to get the two workmen to agree, and notwithstanding that in a subsequent Act of Parliament an extra workman was introduced, making five workmen altogether, still the method was not found to be satisfactory. In looking through the minute books of one of the old City companies a short time since, he found an entry which said that, the Hall being considered dangerous, a surveyor was sent for to advise on the point; but it so happened that the surveyor was not in his office, so a bricklayer was called in, as a practical man, and he came down and relieved the City fathers of much of their anxiety, and for this was paid half a guinea; so that workmen in those days were apparently more prized than at the present time.

He could not help thinking that, notwithstanding all the difficulties that were constantly presenting themselves, the present system of three surveyors was about as simple a

plan as could be found. A great deal depended upon the selection of the third surveyor, who, he considered, should be an architect and surveyor who could take the whole subject in hand, and who knew the details of the construction as well as the rights of both sides. Thus, in almost every case, difficulties, which it was almost impossible for any Act of Parliament to deal with in detail, were very easily got over and the result was generally satisfactory. He quite coincided with the view expressed by Mr. Bedells as to the duties of a third surveyor, who was constantly looked upon as an umpire or arbitrator. At the present time he had two cases in which the two surveyors had disagreed, and they had put the matter into his hands as third surveyor, to settle it between them. Both of which cases were now standing over because there were certain points not touched at all by the Building Act, and which must be settled before the award could be prepared. He also thought that, in any question of party-walls, a proper award should be drawn up, for things sometimes began very pleasantly, but ended in difficulties leading to litigation and expense.

He could not quite agree with the suggestion that something might be done on one side of a wall without notice being given to the adjoining owner. A party-wall must be looked at as one wall. It might be a small matter, or it might be a very important matter, to do works on one side of a wall without the adjoining owner knowing anything about it, and he knew of a recent case where a party-wall had been rendered dangerous by something done to one side of it. Owing to cutting away on one side of an old party-wall a sad accident took place some years ago, and the conclusion he drew from it was, that each owner should be cognisant of what was to be done before the party-wall was touched at all. No doubt there was some difficulty and loss of time in connection with the three months' notice, but he thought

that such notice was a very essential thing. If a man was suddenly told that a wall was to be pulled down in a week or two's time, it might mean serious interference with his business or his house, and he thought that three months was a notice short enough for a thing of that kind.

Another remark with which he agreed was with reference to getting the wall condemned as dangerous where there were difficulties in giving notice. He thought that district surveyors should certainly set their faces against that system. He had a case at the present time where the adjoining owners were excavating, and had made a wall ruinous; the district suryeyor had condemned the wall, and a summons was issued; but he (Mr. Douglas Mathews) repudiated the whole thing, and the adjoining owner came on him for the expense incurred in building the wall. But all this difficulty had occurred through their not having given notice in the first instance as to the rebuilding of the wall.

With reference to what Mr. Rickman had said about party-walls being dealt with as a whole, he thought that one must always look at a party-wall as one wall, and there was nothing more dangerous than chopping 4½ inches off a 9-inch wall, as was sometimes done out of the Metropolis. He thought the Building Act was a means of solving many difficulties, and it would be a good thing if there were a similar Act for country towns. As to party-fence walls not being recognised by the Act, he quite agreed with what had been said, that it was a most difficult thing in dealing with party-fence walls to know how far one could act. The old system of half the wall belonging to each owner was the one that generally obtained, but it constantly led to difficulties. The adjoining owner, in a certain case, built a conservatory, and put the end of his conservatory on the party-fence wall, which was quite in accordance with the Act of Parliament; but then came the next-door neighbour, who wanted to do

precisely the same thing, and the district surveyor rightly required the building-owner to carry up the wall as a party-wall, but this was objected to by the adjoining owner as interfering with his light. It was a very small matter indeed, but he was afraid they would have to go to the Law Courts with the case.

He fully appreciated the remarks of Mr. FREEMAN with reference to the support of the party-wall in the case of a passage or entrance. In his practice he had had, on three occasions, to deal with matters of the kind—in two cases he had built a party-wall over the centre of a passage leading to a street behind, and in one case the adjoining owner had caused them a great deal of trouble by not agreeing to what was required for support to the wall. The two walls below the first floor were independent walls, and although there might be a right of user, yet they could not be called party-walls in that sense, and if they were external walls there was nothing that he could see to prevent either owner from forming openings for his own convenience.

With reference to the diagram which Mr. BEDELLS had given, if the building-owner required a thicker wall than formerly, he must take means to obtain it above A's ground floor, as he would not be justified in taking more of A's ground.

With regard to Mr. FREEMAN'S question as to how far a wall was a party-wall. The Act of Parliament was clear in that matter in one sense, but not in all. Its definition was a wall separating two buildings, and as such it was evident that it could only be a party-wall to the extent of 15 inches up the adjoining building; but there was a clause which said that, in the case of a gutter adjoining the party-wall, the party-wall should be carried up 15 inches above that of the highest building, and to that extent there was a contradiction.

Allusion had been made by Mr. Rickman to the proposed new Building Act, and, doubtless, the matter was one which would cause much discussion. To prevent the spread of fire, it would be desirable to carry a party-wall up solid to the top of the higher building, but it would interfere most seriously with rights if openings were not allowed to be made in that portion which was above the lower building. It was a great hardship to the adjoining owner that his neighbour should be allowed to put in openings which, in course of time, might become ancient lights, and so seriously injure his property. But he saw no reason why, on payment of a quit-rent, or something of that kind, permission should not be given without the right being established.

He could not quite agree with what Mr. Freeman had said as to the payment for the use of the wall, for it did appear to him to be only a fair thing that a man who wanted to make use of what his neighbour had done should pay his quota towards it. It was the almost invariable custom, and he had never heard its fairness questioned. People were very glad to pay a small sum for the use of a wall. As nothing was paid for the expense of the foundation, the payment was equitable as the neighbour paid nothing at all for the interest on the money, but simply the fair price of brickwork whenever he made use of the wall. The custom appeared to have been accepted, because in the former Building Act there was a provision to this effect.

With regard to the question of compensation, it certainly was a hard case that a man who had a good wall for his own purposes should be put to trouble and annoyance and expense in having that wall pulled down because his neighbour erected a building much larger than before. He remembered a case in point which had happened a short time ago in one of the largest thoroughfares of London.

The building-owner was erecting an enormous building, going down about 25 or 30 feet below the pavement and rising 80 feet above, and his (Mr. MATHEWS') client had a small house adjoining, in which he lived. Of course the old wall was not sufficiently strong, and a new one had to be built, and, his client's house having a very narrow frontage, a great deal of the space was taken up by shores. The business was also, to a certain extent, interfered with by a large hoarding, and altogether the case was about as hard as any he had had to deal with. His client naturally felt very much aggrieved and considered he ought to have compensation, but he (Mr. MATHEWS) told him his experience was that he would not get any, and his client, having consulted his solicitor and taken the advice of counsel, let the question drop. He thought that, in some cases, compensation might be reasonable, but it would be a very dangerous principle indeed to adopt in all cases, for it must always be remembered that a party-wall is a wall advantageous to both sides, and though like other things it had some disadvantages, these must be faced, and the greater advantages first considered.

Mr. WHEELER, Q.C. (Associate), said that when, in November last, he had the honour of moving the vote of thanks to THE PRESIDENT for his Address, he had no idea that he was using the language of prophecy in saying that if some members of his (Mr. WHEELER's) profession attended the Meetings of the Institution and listened to the debates and to the various Papers read, they would derive an infinite amount of benefit. Strange to say, he himself was, probably, the first person in the room to feel that benefit. He had read Mr. BEDELLS' Paper, hoping to learn something from it, and he had succeeded. Within forty-eight hours, he had had an extremely difficult case, relating to the very subject of

party-walls, presented to him for his professional opinion, and, had his attention not been so clearly called to the matter, he should have done his client infinitely less good than he had been able to do.

If he might be allowed for a moment or two to be critical, he would call attention to page 85, on which he found some remarks on Mr. Bannister Fletcher's well-known work, "The Metropolitan Building Act," which had hardly done that writer justice. The author suggested that the case of *Watson* v. *Gray* ought to have been omitted, or else should have been very carefully safeguarded by explanation in the text; but when he (Mr. Wheeler) turned to Mr. Bannister Fletcher's book, he found that that case was in a note (which he, Mr. Wheeler, thought was well introduced) to call the attention of a person not professionally versed in the matter of what a party-wall and structure was. It then went at length into the famous decision of *Watson* v. *Gray* by Mr. Justice Fry, giving it *ipsissimis verbis*, as it appeared in the *Law Times'* report. Turning to page 81, it would be found that Mr. Bedells there dealt with the definition of party-walls. Lord Westbury had once said:—"The very moment you tolerate inaccuracy of "expression you instantly beget inaccuracy of thought"; and it was to be noted that Mr. Bedells, on page 81, began with "The Act supplies the definition—party-wall," and so on down to the word "person." That should have been printed to read "party-walls." The word "party-wall" should have been in inverted commas, and there should have been no inverted commas on the word "person"—in other words, it was not an interpretation clause; it only pointed to what the meaning of "party-wall" was, namely, a wall that separated, or was intended to separate, two adjoining houses or properties, and was to be a party-wall for the purpose of the statute. He was sure that Mr. Bedells would

forgive him, as being a much older man than himself, if he pointed out (he would not say this error, but) what he ventured most respectfully to think might be, to use Mr. Bedells' own language, "more safeguarded."

He remembered that The President, in his last Opening Address, had made use of an expression which struck him as being exceedingly apt. He had asked the Members, both young and old, to regard the Institution as, in a sense, their "Alma Mater," and he was delighted to find the younger generation of Members coming forward and reading Papers with such real solid substantial work in them, and he hoped that Mr. Bedells would accept from him his own personal thanks for the benefit he had derived from reading the Paper.

Mr. W. Allport (Fellow) said it had been his misfortune, particularly of late, to be concerned with questions relating to party-walls. The Metropolitan Building Act had, unfortunately, not dealt in a clear way with the difficulty as to party-walls, and it was a source of satisfaction to the Members of the Institution, and to surveyors in general, that the Council were considering suggestions for amending the Act.

With reference to the three months' notice under the Building Act; suppose a notice to be served on the adjoining owner, and after that notice had expired, that the building-owner, for some reason, did not go on with any works. Ought not there in that case to be a limit set to the time during which the notice should last, so as not to leave the adjoining owner in doubt as to what he had to do with regard to his premises?

Then, again, what was the meaning of the word "surveyor" under the Act? A building-owner gives notice that he is going to do certain works, and he is

bound under the Act to appoint a surveyor. In one instance within his (Mr. Allport's) experience a builder's foreman had been appointed as a surveyor.

Then, in another case, a building-owner, who happened to be an architect and surveyor, sent the usual notice and appointed himself as his own surveyor under the Act; and he believed the case was not an isolated one, and he (Mr. Allport) would much like to have it definitely decided what was a surveyor within the meaning of the Act.

With reference to the Dangerous Structures Act, which formed part of the Metropolitan Building Act, he thought it a very great mistake that the district surveyor should be the person to be applied to as to whether a wall in his district was dangerous or not, for he ventured to think, with all respect, that some district surveyors utilised their position to oblige and accommodate the building-owner in order that he might get the wall condemned, even where, as in a case of which he knew all the details, the wall had been pronounced by three surveyors to be a good sound wall.

With regard to flues in party-walls, he quite agreed with Mr. Rickman that they ought not to be brought within $4\frac{1}{2}$ inches of the adjoining side, or within that distance of the building-owner's side. Recently, in the case of a large residence in the west end of London, three surveyors were appointed under the Act to decide the question whether the building-owner had the right to put his flues within $4\frac{1}{2}$ inches of the face of the adjoining owner's premises. Two of the surveyors then made an award that he had not the right to place his flues except within $2\frac{1}{4}$ inches of the centre of the wall. He (Mr. Allport) had been very much surprised to learn that a very large amount of property in the west end of London was being rebuilt, with the flues in the party-walls within

4½ inches of either side, with risks which it was appalling to contemplate. He contended that while the rights in a party-wall extended from one face of the party-wall to the other, there were prescriptive rights outside the Building Act which protected an owner from having flues built in any portion of a party-wall over his freehold by the other owner. He had lately had an important instance where a party-wall notice was given, the building-owner wishing to rebuild the party-wall and to go some 15 feet below. He did go that depth below the adjoining owner's premises, and in doing so drained all the water from a mass of made earth some 7 or 8 feet deep, and from some running sand under it. In consequence he had to be continually pumping water from the trench into the sewer, which was about 8 or 9 feet above, and thus brought away all the water and the running sand forming the support to the adjoining owner's premises. Within a very short time after the party-wall was built, the adjoining house split from top to bottom to such an extent that he could put his hand through the wall. It was, he believed, a moot question as to whether, when a drain was excavated against an adjoining owner's premises, one was liable or not. If damage were done, did not it come under the damage consequent upon the rebuilding of the wall within the meaning of the Act? If it did not, then it was a question that might very well be dealt with by the Council of the Institution.

Another matter was with reference to the third surveyor. Some time ago Mr. Chatfeild Clarke had been appointed third surveyor in the matter of a party-wall question in the west end of London, and had drafted an award, which the building-owner's surveyor and he signed. He (Mr. Allport) objected to it, because he thought that it was not a good award, and to his great surprise the building-owner appealed against his own award and gained the appeal,

because Mr. Chatfeild Clarke and the other owner's surveyor had put in a clause to the effect that they should uphold and support the adjoining owner's premises and board and canvas during the operation. There was nothing in the Act which provided for such a thing, so that the clause was struck out of the award. In any amendment of the Building Act he thought it most essential that there should be some further provision made with reference to the protection of the adjoining owner.

Another question which had come under his notice with reference to the meaning of the Act, was in a case where two surveyors were appointed, and had done what they had a right to do without calling in a third surveyor; that is, they had made an award in certain matters which were submitted to them by the building-owner and the adjoining owner. But after having made that award other points of importance cropped up which were not foreseen, and the matter was again brought before the two surveyors, who then disagreed. Their award did not cover the matter in question. In that case would they be at liberty to call in the third surveyer on additional matter, after the two surveyors had made the award? As he was advised, the two surveyors having made an award, the third surveyor was entirely shut out, and had nothing at all further to do with it. In the event of the two surveyors having matters before them in connection with a party-wall, and they having made an award in which they had not dealt with a particular question, he thought it only reasonable that the third surveyor should then be called in, and either the two or three surveyors should make an award on the other matter. He was told that could not be done, but could not find any legal decision as to whether the third surveyor's duty was at an end when the two surveyors had made an award. He had had a case similar to the one referred to, of a party-

wall beside a public passage, and had maintained in that case that the wall next the passage was an external wall.

Mr. A. King (Fellow) said the questions raised by the Paper were undoubtedly of an important character, and it behoved surveyors to give them their careful attention. The Building Act, as all knew, was not without its defects; but, at the same time, it was a very useful guide to those surveyors who practised in London. In his Paper Mr. Bedells had pointed out the fact that it was somewhat hard upon a building-owner who wanted to execute works entirely on his own side of the wall, that he should be required to give the usual three months' notice. From the building-owner's point of view that might very well be; but one must also look at it from the point of view of the adjoining owner. He had had a case recently where the building-owner proposed to do certain works on his side of the wall, and to cut away the chimney breasts here and there, to allow the carrying up of piers, which, he said, would not be any interference at all. That was all very well; but, the party-wall notice having expired, he proceeded to cut away. First of all, he laid him (Mr. King) open on the third floor, and then on the first floor, and, thirdly, not being content with merely topping the chimney stacks, he cut away the chimney breasts, which jeopardised the wall to such an extent that it had been condemned. Supposing it had not been incumbent on the building-owner to give that notice, in what position would he (Mr. King) have been? First of all, he would have had to define who was the building-owner; and, secondly, who was liable to his client. Under those circumstances it was most important that nothing should be done whereby the rights of an adjoining owner might be interfered with. In the particular case, on his (Mr. King's) side of the wall,

there were some thousands of pounds' worth of valuable china and glass, and one could very well conceive how important it was that every proper precaution should be taken to protect his client from any material loss by works carried out on the other side of the wall.

Another point which was referred to in the Paper was with regard to the party-wall notice. On whom was the building-owner to serve the notice under the Act? In a decision recently given in the case of *Fillingham* v. *Wood*, it was held that the adjoining owner was any person who had an interest other than the interest of a tenant from year to year. Perhaps there might be some present who were not cognisant of the fact. The case arose in Margaret Street, Cavendish Square. There were two adjoining owners in a house. One had a term of many years unexpired, and the other tenant was under a three years' agreement; a party-wall notice was served upon the lessee, and the three months' notice expired. The building-owner commenced building operations, and the tenant who was under the old agreement objected to the works being proceeded with, and said, rightly, "I am one of the owners "under the Act. You ought to have served me with the "party-wall notice, and I shall insist upon your doing so." The building-owner contended that he had served the usual notice. An action was brought before Mr. Justice Chitty, who said that he considered an injunction ought to be granted, and, as a matter of fact, an order was made for the service of an additional notice upon the tenant who held under the ordinary agreement. Mr. Justice Chitty said further that, where there may be several persons, each in possession of a portion of a house, who hold over a longer term of years than from year to year, and the building-owner is not in a position to find out who they are, a section of the Act provides that the usual party-

wall notice is sufficient if it is affixed to the premises and not directed to anybody, notifying the building-owner's intention to do certain works. That notice was said to be good as against everybody.

It was a common practice, in serving party-wall notices, to give a name of a firm. But he believed it had been held that it was illegal so to serve them. The Act (section 85, sub-sections 7, 8, 9, & 10) says clearly the notice must be signed by an individual. One of the speakers had referred to the hardship of the building-owner abandoning a party-wall and building an independent wall inside, but circumstances altered cases. It might sometimes be a hardship, but, on the other hand, it might be equally a hardship on the building-owner. He remembered a case very much in point which arose some years ago in Old Street, St. Luke's. He was carrying up some extensive warehouses. One wall was a party-wall, and there was a cottage adjoining. Some £8,000 or £10,000 was being spent on the new warehouses, and it was thought they would not want to use this party-wall. But ultimately it was decided to use it, when so many questions were raised by the adjoining owner as to what was the worth of a half of this wall, that at last his (Mr. King's) client got disgusted, and it was decided to build an entirely independent wall. He thought it manifestly unfair that because an adjoining owner might have a right in a party-wall and was not content to take a fair sum, he should be able to prevent the erection of a building worth many times the value of his interest in the wall.

Mr. Bedells, replying, said it was too late to attempt an exhaustive reference to the discussion, but he proposed to deal shortly with some of the remarks that had been made. He must first very cordially recognise the extremely

kindly way in which the Paper had been received and referred to by the various speakers.

The fact had been referred to by Mr. Douglas Mathews that, in the country, paring off a part of a wall was constantly done, and he agreed in thinking it a most reprehensible practice. It seemed to him in direct violation of the recognised right of support, not only from land and for land, but for buildings and from buildings. If he were acting for a country adjoining owner in such a case he should at once protest and call the attention of the building-owner to the fact that he was running a very serious risk by the procedure he was proposing. Of course, prior to the cases of *Dalton* v. *Angus* and *Lemaitre* v. *Davis*, there was a doubt as to whether there was a right to support apart from grant, and people had a much freer hand as far as that liability was concerned, than they had at the present time. Mr. Munton, in his remarks on the previous occasion, had referred to the advisability of deeds and plans setting forth the intention of the parties with regard to party-walls, but these remarks had been anticipated, on page 73 of his Paper, where he had said it was a wise precaution to insist on some such understanding being embodied in the deed in the case of a sale or the creation of a tenancy.

He concurred in Mr. Douglas Mathews' views that if the decision in *Weston* v. *Arnold* was not followed, and no openings were allowed in party-walls above the height of the adjoining roof it would be very hard, but where such window openings already existed as ancient lights, there was a definite decision that an Act authorising party-walls to be raised does not authorise the obstruction of such ancient lights thereby.

There was a consensus of opinion with regard to the lower part of the wall shown in figure 1 of the sketch, that

it is not a party-wall, and also as to the difficulties which such cases frequently raised.

Referring to Mr. WHEELER's remarks as to the quotation given by him (Mr. BEDELLS) from the Act of Parliament, on page 81, he thought them very critical indeed. The quotation was *verbatim*, only the words "party-wall" should have been in inverted commas. No one would be likely to misunderstand his reference to this as the "definition" of a party-wall under the Act. As to his criticism of the use of that case of *Watson* v. *Gray* in Mr. BANISTER FLETCHER's text-book, his point was not so much that the case ought to have been omitted, but was rather, as he had gone on to say, that it ought to have been very carefully safeguarded by explanation in the text. What he meant was that one would naturally assume that, coming in the position in which it occurs in the book, the principles of that case were to be taken as guiding principles in dealing with the cases of party-walls and party-structures which follow; whereas if the decision in *Stokes* v. *The Standard Bank* was correct, namely, that the rights of the building-owner under the Act are in substitution of common law rights, it did occur to him that the insertion of the common law case of *Watson* v. *Gray*, without a qualifying note, was very apt to mislead those who were not fully technically aware of the bearing of the case of *Stokes* v. *The Standard Bank*. Therefore, with all deference to Mr. WHEELER, he thought the remark he (Mr. BEDELLS) had made was fully justified.

He was very glad that Mr. DOUGLAS MATHEWS said what he did in answer to Mr. FREEMAN's remarks as to the hardship in the case of *Williams* v. *Bull*. He still thought, notwithstanding what Mr. FREEMAN had said, that it was a very hard thing that the adjoining owner should be allowed to use the raised wall without contributing his quota of cost.

Then, Mr. FREEMAN had gone into the question of what was the intention of the Act as to service of notice, and subsequent procedure. In the case of *Stokes* v. *The Stanard Bank* the Judge himself had said what he thought was the distinct intention of the legislature on that point, and he (Mr. BEDELLS) would, if he were allowed, in any reply he might make in the "Professional Notes" * give an extract from that case.

With regard to the recommendations which he (Mr. BEDELLS) had made at the end of his Paper, he was glad to see that some of them had received definite support. Mr. FREEMAN had agreed that there should be properly defined rights and liabilities with regard to the raised portion of a wall, and Mr. MATHEWS had also concurred.

He would like to explain the fourth recommendation which he had made on page 96, the only one to which exception had been taken, because it had been treated by Mr. CHATFEILD CLARKE, on the last occasion, as if he (Mr. BEDELLS) had suggested that there were certain works to a party-wall that might be done without an award and without waiting three months, whereas he held with Mr. CLARKE that it would be a very dangerous right to give. What he had suggested was that in the case of works to be done to the building-owner's side of a party-wall without interfering with the adjoining owner, the matter should be properly considered and determined by the three surveyors, but that they should not be hampered, as they were now, by sub-section 7 of the 85th section of the Building Act, which says, "But any time so appointed"—that is in the award—"for doing any work shall not commence till after "the expiration of such period of three months, as herein-"before mentioned." If that restriction were removed the

* The subject will be further discussed in Part 3, Vol. 5, of the "Professional Notes."

difficulty would be met to a considerable extent. If the three surveyors were allowed to consider the matter properly, and go into it fully, and then were to decide that there were certain works which *could* be done to the building-owner's side of the party-wall without affecting the adjoining owner, they might issue the award, and the work would go on without delay. But at present they could not so award. It seemed to him that this was an unnecessary provision, and it would be a decided advantage to have it altered.

He was glad to hear that Mr. RICKMAN agreed that party-fence walls should be dealt with in the Act. He thought that some of the provisions of previous Acts were reasonable ones, and surveyors in London in many cases would be glad if the facility which had been given by those Acts for dealing with party-fence walls were re-enacted.

The Meeting then adjourned.

Paper 182.
No. 303.

"THE FOUR-COURSE SYSTEM," WITH DESIRABLE VARIATIONS.

By EDWARD HENRY MORRIS (Fellow).

Read at the Ordinary General Meeting of The Surveyors' Institution, *Monday, January 18th*, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

In considering this question we must not be led away by a fixed idea that any one system is, in itself, necessarily better than another, but must try to find out which is the system that pays best in the present day, and whether any defined system will pay better than a variable one. What we wish to arrive at is the best mode of management, in order to increase the profits of the tenant, without doing so at the expense of the landlord. I have not had the time at my disposal for any very deep research as regards the scientific, theoretical, and statistical points bearing on this subject, even if this had been desirable, but I take it that such minute detail is not what is required. My attention has rather been directed to the practical part of my subject, and as I have been more or less closely connected with agriculture from my boyhood my remarks will be chiefly based upon my own observation and practice. I may, however, say in the outset that, thinking you would like to know something of the working of this system in various parts of the country, I sent out a circular to several of our leading agriculturists

in different parts of England and Wales in which I asked the following questions:—

1. Is the four-course system generally adopted?
2. When was it first introduced?
3. Is it as popular now as it was? If not, what is the reason?
4. Has the low price of wheat during the last six years reduced the quantity sown?
5. If so, what is planted instead?
6. Is there much clover sickness? If so, is it attributed in any measure to the four-course system?
7. Is there much "finger and toe" in the root crops?
8. Is this disease attributed to the adoption of the four-course system?
9. If the four-course system is not general with you, what is the prevailing system?
10. Has the price of labour in any way affected the quantity of arable land under cultivation?
11. How much has the cost of labour increased during the last 30 years?

To these queries I received 61 replies from residents in 38 counties of England and Wales, viz.:—

Bedford - -	2	Huntingdon -	1
Berkshire -	1	Leicester - -	1
Buckingham -	3	Lincoln - -	2
Carnarvon -	1	Lancashire -	2
Cornwall - -	1	Merioneth -	1
Cheshire - -	1	Monmouth -	1
Carmarthen -	1	Northampton -	3
Cambridge -	1	Nottingham -	2
Cumberland -	2	Northumberland	1
Cardigan -	1	Norfolk - -	1
Dorset - -	1	Pembroke -	1

Derby	- 2	Salop	- - 4
Durham	- - 1	Stafford	- - 1
Flint	- - 1	Suffolk	- - 3
Gloucester	- 2	Somerset	- - 2
Glamorgan	- 1	Warwick	- 2
Hereford	- - 2	Worcester	- 3
Hertford	- - 1	Wiltshire	- 1
Hampshire	- 2	York	- - 2

Of these, about one-third say the four-course system is pretty generally adopted, and the remaining two-thirds say it is not.

Very few have ventured to give any reply to the second question, as to the date of introduction of the four-course system; and what replies are given are of a rather indefinite character, the time mentioned varying from 30 to 100 years ago.

In reply to query 3, as to the popularity of the system, only two or three have gone so far as to say that it is as popular now as it was, the greater number stating that modifications of the four-course or other systems have been found more advantageous.

The replies to questions 4 and 5 show, as I expected, that the breadth of the wheat crop has been very considerably reduced, and this has, no doubt, had a marked effect upon the rotation of cropping—oats and barley being to a considerable extent substituted, as well as other kinds of crops.

As to my inquiries in questions 6, 7, and 8, with reference to clover sickness, and "finger and toe" in the root crops, which evils have to a great extent interfered with many a farmer's order of cropping, I find that clover sickness is not now complained of so much as it was, for the simple reason that farmers have discovered that on many soils it is useless to attempt to grow clover so frequently as once in

every four years, and in most instances they either sow a mixture of other seeds or extend the interval to six or eight years. "Finger and toe" is a serious trouble in many districts, the greatest complaints coming from Bedford, Cumberland, Durham, Hereford, Hants, Norfolk, Salop, Worcester, and York, occupiers of the lighter soils in all instances being the principal sufferers. All seem to agree that the cause is the too frequent recurrence of the crop, and the too scanty application of lime and chalk.

In reply to the next query, "If the four-course system is "not general with you, what is the prevailing system?" As you may imagine, the answers to this question give a large number of systems of the most diversified kind (if systems some of them can be called), since they are, no doubt, in many instances, rotations which experience has taught the occupiers to be most suitable and profitable for their respective districts. In the county of Hereford I find that two straw crops are often taken, then seeds, which are left down for two or three years, after which the land, if of a heavy nature, is often broken up into fallow in the summer months, as a preparation for wheat in the autumn. In Leicestershire the following six-course rotation is said to be the most favoured system, viz.:—first year, roots; second, barley; third, seeds; fourth, seeds; fifth, oats; sixth, wheat. From Northumberland a leading agriculturist sends me the following:—"Instead of the one year's grass, as in the old "system, it is left for two, three, or four years. The course "which I found best is as follows:—oats after grass, second "year turnips, third barley, fourth turnips, fifth wheat sown "down with seeds, to remain for four or five years." From Worcestershire I learn that the four-course system is scarcely sufficiently adopted to be called general. The land in the county varies very much, a large proportion of the north being too tenacious for roots, clover, wheat, beans, and oats being

grown; but there are medium soils on which the four-course is mainly adhered to, and tracts of very light land (notably near Stourport) where very large quantities of potatoes, and peas for picking are grown. A leading agent and agriculturist in Hampshire, who has also been a judge and prize-taker at the "Royal," says of that county:—"There "is no established system adopted: for instance, two straw "crops are frequently grown, first wheat, second barley or "oats, third seeds or red clover (if seeds, probably for two "years), fourth wheat or oats, and then, perhaps, two green "crops in succession." A Somersetshire agriculturist says:—"The prevailing system in this immediate locality is the four-"field course, which runs—roots, barley, clover, and wheat, "or sometimes wheat, barley, clover, roots. There is also a "five-field system adopted, viz., clover, wheat, beans, roots, "barley or oats, and sometimes wheat, barley, clover, oats, "and roots. Barley is frequently found to be of an inferior "quality grown after turnips which have been folded with "sheep, and a liberal supply of cake used. The land "becomes high in condition, and produces a large bulk of "straw which frequently gets laid, and the corn is not bright "and suitable for malting purposes."

A gentleman in Gloucestershire, of large agricultural experience, informs me that, "on the light soils of the Cotswold "Hills, by far the most extensive and important arable "district in the county, the prevailing system is the five-"course, a modification of the four-course, in which the "seeds stand two years instead of one, thus:—First turnips, "second barley or oats, third clover, fourth clover, fifth "wheat. On the heavy soils a sixth course shift is usual, "namely, first roots, vetches, or peas, second wheat, third "clover, fourth wheat, fifth beans or peas, sixth wheat."

I have a large number of other equally interesting replies to this question; but as their introduction would extend

this Paper beyond a reasonable limit I am obliged to omit them. There is one, however, from Norfolk, which I have received from Mr. Clare Sewell Read, whose opinions on agricultural matter are always so highly valued that I may be pardoned for quoting in full his replies to my series of questions. He says:—"The old four-course, which was "introduced into Norfolk more than 100 years ago, is still "the common rotation of cropping in the county; some "agreements rigidly adhere to it, but on the Holkham "Estate, where the tenant may crop his land as he pleases "for the first 16 years of his 20 years' lease, the majority of "the tenants only deviate from it to take an occasional crop "of barley or oats upon a clean wheat stubble. Upon "friable land that is only fairly farmed, the four-course is "by far the best system, but upon very light or very heavy "soils, or where land is really highly farmed, there is no "reason why it should be so general as it is. It is the "great mistake on some large estates in Norfolk to enforce "by a printed agreement the same system of farming upon "lands of the most opposite kinds. On very light soils, "those broken up from sheep walk or warren many years "ago, it is better to grow as little corn as possible and to "sow a mixture of seeds which should be kept down as long "as they will afford a bite for a sheep. Upon very stiff "clays the cost of cultivation is so great that there is a "tendency to keep the seeds down two years instead of one. "And on very highly-farmed good land, where there is a "tendency to produce too much barley after roots fed off by "sheep, wheat-stuble-barley is grown with advantage, and "a five-course system of cropping is and may be safely "adopted. The area of wheat grown in Norfolk has "diminished about one quarter from its highest point, but "is not likely to recede much more. When red clover is "grown only once in 8 years, clover sickness does not often

" show itself. If it does, then 12 years is the interval, the " remaining seeds being composed of white clover, cowgrass, " rye-grasses, trefoil, &c. 'Finger and toe' is complained of " this year and our swedes are very sickly, and I wonder " more of this disease is not prevalent, for it was always " considered necessary in my young days to clay, marl, or " chalk *all* soils once in 10 years to prevent its recurrence, " and now no mineral dressing is ever used, which perhaps " accounts for the deterioration of our barley samples.

" Rents are down; but labour is more costly than ever " and, taking the increased price, the reduced quantity and " the inferior quality of labour, and adding the cost of " machinery, the labour bill is 50 per cent. more than it " was 50 years ago."

In answer to my queries as to the cost of labour and its effect upon the cultivation of the land, nearly all state that labour has risen very considerably, the advance varying from 10 per cent. in Berkshire, Hampshire, and Lincolnshire, to 100 per cent. in Cardiganshire, the majority giving the rise as from 25 to 35 per cent. Many correspondents complain much of the quality, as well as the quantity, of work done, and if this be calculated in addition to the advance already quoted, a still higher percentage would be more accurate. This increase, added to the low price of corn, has had the effect of reducing very considerably the quantity of arable land under cultivation, as well as the rotation of cropping. Indeed, the *labour* question has a more direct bearing on the four-course system than we may at first sight suppose. We shall have to consider whether there is any other system which will more economise *labour* and produce more profitable results.

A friend of mine, and one of our best Shropshire farmers, has, in a letter to me on the subject, touched upon this very point, and as I have not yet given any of the rotations of

cropping in that county, I cannot do better than quote what he says upon both these matters:—

"I do not think that the four-course system is the best "for general practice, inasmuch as it requires a greater "staff of men and horses, and consequently is more expensive, "than the cultivation of the same acreage under a five or "six course system. I maintain that, taking a 500-acre "farm (300 arable and 200 pasture), or a 400-acre one (300 "arable and 100 pasture), by working it on a 6-course "system, viz., wheat, barley, turnips, barley, clover, clover "(*i.e.* leave the land down two years, and take two straw "crops), the land would not get clover sick, neither should "we have so much 'finger and toe' in turnips as we now "do. Fewer horses would be required to cultivate the "land, and fewer labourers: more stock would be kept, and "better manure would be made, so that each 50-acre course "would get a good dressing of farmyard manure each time "it came round at the least.

"Now that artificial food is plentiful and cheap, too "many turnips are grown and stock often have too many "turnips to consume and too little concentrated food, for "their well-doing. Very few farmers know what to do "with 75 acres of turnips when they have them, and, as "they are the most costly crop to produce, much money is "lost to the farmer in consequence. My estimate of the "cost of an acre of turnips is from £9 to £10 where farm-"yard manure at all is applied.

"Catch crops are not much grown in my neighbourhood "—sometimes rye for grazing with sheep in the months of "March and April, followed by turnips, which latter always "do well. There is something in the fibre of the rye roots "that the young turnip revels in. I always sow one field, "and have never had a failure. Other catch crops, viz., "trifolium, do not seem to suit our climate, we being a little

"too far north. The four-course system is not deviated "from, owing to all farm agreements containing such "monstrous clauses. I feel sure myself that it is not the "best for the occupier (and what is best for the occupier is "sure to be the best for the owner), as it requires too great "a working staff at turnip planting and turnip raising, and "to leave turnips in the field all the winter is one of the "most suicidal things a man can do. My views are taken "from a lifelong practical knowledge of the business."

Having cited the foregoing I think I ought to quote another high authority in the same county on agricultural matters, who rather favours the four-course system. He says:—"The four-course on loams and sandy loams still "holds its own in the main, and, in my opinion, is the best "foundation of rotation for such soils. It has given way to "the five-course in some cases, or rather the clovers are left "down two years together sometimes, but this is not a con- "tinuous policy. I have pursued it for a short time on a "separate holding which I occupy, but have not extended it "to my other farms. It grows more green keep when I want "it for summer. I also modify the four-course by putting "one-eighth of my clover ley in winter oats, and another "eighth into vetches, and this one quarter is succeeded by "roots, an eighth of the course thus being devoted to green "crops two years, instead of a white and green crop. I "think perhaps this plan might be extended where sheep "*summer* feeding is a point of importance. I find more "keep is provided than by leaving the leys two years, also "a better class of food, and the land does not run so foul, "and if it does go to scutch to some extent, can be autumn "cleaned after vetches, instead of being laid down in wheat "in a foul condition. 'Finger and toe' does not trouble "the land worked on the four-course in my neighbourhood; "but from recent complaints in many places it is almost

" fair to assume that the alternation of roots every fourth " year has something to do with it. Perhaps the absence " of plenty of bone and lime may also be an explanation of " the matter. But the growth of mangolds and cabbages, " and common turnips, has also much extended, and effects " a less frequent repetition of the swede. Cabbages are " called exhausting, and if they were all removed from the " field and farm would be so, but eaten on they are a source " of increased fertility to the land."

From Wiltshire I get the following :—

" The principle of rotation is, I take it, to grow crops " which feed differently, and grain and fodder crops should " be taken alternately. The Wilts rotation is as follows, " and, in my opinion, is most instructive. The main crops " are these :—

" 1. Late turnips folded.
" 2. Early do. do.
" 3. Wheat.
" 4. Barley.
" 5. Roots
" 6. Barley or oats } Norfolk four-course.
" 7. Clover
" 8. Wheat

" Before 1, vetches will have been close folded. Before 5, " winter rye, barley, oats, or trifolium will have been folded. " If 6 is to be barley, alternate rows of swedes in 5 will " have been lifted and clamped on some fodder crops, " generally rye. It is often thought advisable on the chalk " downs to take oats as 8, so has to have a bite for sheep " for several months longer than would be possible were " wheat taken, and the oats do well on the remainder of the " clover root."

Another gentleman, who farms largely in Shropshire, sends me an account of his mode of cultivation of a mixed

farm, *i.e.*, partly light soil and partly heavy; and, as his management appears to be highly successful, I venture to give it, with a few of his remarks on the four-course system. He says:—"In answer to your query respecting the system "of farming generally adopted in this neighbourhood, I beg "to say that, where practicable, the four-course system is "generally continued; but on farms like my own, with one "half good turnip and barley soil and the other half stiff "cold land, I do not think it wise for a landlord to compel "a tenant to carry out this system; for on our cold stiff "land the cost of cultivation is so much more, and the risk "of getting a turnip crop so much greater than on good soil, "that I consider it a better system to manure heavily, and "take a crop of beans. Then, with a slight dressing of "lime (if the ground is kept clean), I find this the most "certain way of obtaining a heavy crop of wheat on stiff "land. On this class of land I generally, through the low "price of wheat, leave the clovers down some time, say two "to three years, or as long as they will last. This gives "the ground a rest, when, by properly manuring, you can "go on cropping heavily again, such as wheat, beans, "clover, &c. Peas are not grown in a general way about "here—and it is a crop I personally dislike, as it nearly "always leaves the ground full of filth. I looked upon the "four-course system as a good one when every crop paid "something, but its day is over. Consider the loss it must "be to a farmer to plough up a good root of clover on stiff "ground, to plant wheat to be sold at from 12*s.* 6*d.* to 13*s.* "per bag of 225 lbs. I think a tenant should be allowed to "crop the land as he thinks best, except the last year of his "tenancy, provided he has kept the land clean and in a good "state of cultivation. I am afraid many farmers *last year*, "*i.e.*, 1889, found the turnip crop of little value, in fact in "some cases not worth the expense of carting home. This

" is the most expensive crop we grow, and I am of opinion " that, if any farmyard manure is used in any way, this " crop cannot be grown under £10 an acre. Through wheat " not paying to grow, I find many farmers in this neighbour- " hood grow barley instead. I have done so myself on all " lands I considered adaptable for that purpose. I am of " opinion that too little lime is used on the stiff cold lands " in the neighbourhood, and too much on the light soils. I " have known several instances of this kind. Landlords " cannot do better than encourage the use of lime on their " cold farms, but on light soils this encouragement is not " required."

Having now heard the opinions of some of the leading agriculturists in the country, let us see how the matter stands. There is no question that the principle of the four-course rotation is most commendable in more ways than one, for by alternating green and white crops the soil is kept in a higher state of fertility by atmospheric action than it would be by any other means. The clover crops have great power in extracting from the air vast quantities of nitrogen, so needful for the successful growth of all corn crops; thus the land is considerably enriched and much benefit is thereby derived. The preparation of the land prior to planting, and during the growth of the root-crops, causes the cleaning to be done in a manner scarcely practicable with any other crop. Again, the root-crop has the advantage of not only being a most valuable crop in itself, but is undoubtedly, when properly cultivated, an excellent preparation of the land for the succeeding crop, as well as for the seeds which follow, more particularly the clover root, which, in its turn, is an excellent preparation for wheat; the roots of the clover invariably making the land plough more kindly, as well as affording the young wheat plant food which it always seems to relish.

If we could have depended upon this system (which certainly has accomplished more than any other in raising the standard of agriculture), and no difficulty had arisen as regards labour, there would have been no necessity for making a change, but we find that this, like all other systems, is not infallible. Red clover has long since become sick of being sown on the same land so often as once in every four years, and the turnip is subject to a disease known as "finger and toe"—a disease which is generally believed to be augmented in a considerable degree by a too frequent repetition of the crop. Now the failure of the clover is a serious drawback to the successful carrying out of the four-course. The numerous grasses which have taken its place, more especially the rye-grasses, are a bad preparation for wheat, probably owing to the fact that they are too nearly allied to the wheat plant. The crops of wheat on a rye-grass ley are often very disappointing. On most strong lands it is necessary, where the clover has failed, and nothing but rye-grass is left, to burst up the land in the summer months and make what is termed a "bastard fallow," before a good crop of wheat can be ensured; but by doing this not only is the grazing of the land for three or four months sacrificed, but the extra labour entailed has considerably increased the cost of production. In many instances this process is not only necessary to improve the mechanical condition of the soil, but is also requisite for the purpose of cleaning out the couch which, in the majority of cases, is sown with the grass seeds, which in country places are difficult to procure without a mixture of the noxious couch. On the lighter soils there is a still greater tendency of the land to "run to couch," and wheat sown upon this land often leaves a stubble, which, after a few showers of rain, has more the appearance of a field of aftermath than that of a white straw stubble after a clean clover ley.

I may here be allowed to say that farmers cannot be too careful in the purchase of their grass seeds, and should take none but those of the highest guaranteed standard of purity, for it would certainly be much better to pay an extra 5*s.* an acre for good seeds, than to run the risk, with cheap seeds, of deteriorating the corn crop and fouling the land, to such an extent as to cause an outlay of £2 or £3 an acre in cleaning it. Then as to "finger and toe," this disease is also an obstacle to the proper carrying out of the four-course, and we frequently find that the more suitable the soil for root-growing the more prevalent is the evil, which has now spread to such an extent as to cause many good farmers to discontinue turnip growing on the fields most liable to this disease. Besides, we must not forget that this is not the only ill the turnip crop is heir to. There is the "fly," the attacks of which probably entail upon the country a loss of scores of thousands of pounds annually,—the caterpillar, and the wire-worm, whose ravages often lay bare large tracts of land which gave promise of abundant crops; and the "mildew," which proved so terribly disastrous throughout the country during 1890 on most of the early-sown crops. Then, again, there is the difficulty of the diversity of soils that we have to deal with—a course of cropping suitable for one being totally unsuited to another.

It is probable that on by far the greater number of estates throughout the country the four-course is the recognised system, but whether its strict enforcement in all cases, or, indeed in any case, is either judicious or desirable, is, to my mind, a very doubtful point. I have long thought that the majority of farm agreements are unsuited to the times, and that the sooner they are revised the better both for landlord and tenant.

Lest I should be misunderstood, I should like to make it quite clear that I am not so much an advocate for any

particular system of cropping as I am for the proper cultivation and manuring of the land. I want it kept perfectly clean and in good heart. These are two points that I should like to bind every farmer under a heavy penalty to observe, and then he might crop his land as he pleased, the only condition being that, on quitting, only a specified quantity of stubble land should be left.

I have seen tenants get their farms into a deplorable mess by attempting to carry out a defined course of cropping on lands not suited for it. For instance, to carry out the four-course on land which requires draining would end in failure. The same result must follow a similar attempt on very stiff land. A striking instance of the latter came under my particular observation some years ago. One of the most energetic and enterprising farmers I ever knew, who occupied two farms, the one having a tolerably light friable soil, and the other being a large heavy arable farm upon which he regularly sowed his 40 acres of wheat, was appointed to the agency of an estate on which the tenants were bound by the four-course system. The new agent had already adopted this system himself on the light farm, and was much pleased with it, and now (if only for example's sake) had decided to adopt it on the heavy farm also. He at once armed himself with a Crosskill clod-crusher and a specially-made 8-horse cultivator, and set to work. The first year he planted the one-half of his 40-acre course with beans, and the remaining 20 with roots. Being favoured by a tolerably dry spring, and an exceptionally good turnip season, he succeeded in growing fairly good crops, one field being very good. So elated was he with his success that he determined to plant the whole 40 acres the following year with roots. This he, doubtless, would have attempted to do, had he not found that he had so completely spoiled one of his fields for the next crop by carting off the roots, the late autumn and winter

turning out terribly wet and there being no frost to speak of the whole winter through. After this, rather than run the risk of the full 40 acres for roots, he decided to plant, and did plant, 10 acres of the land with beans; but these, through being sown in the spring, and on land that had not been rendered workable by frost, did no good, and proved a very poor, miserable, badly blighted crop. The absence of frost had also given him double work with his barley and oats sowing, and it was the end of April before he could get his work done. He now commenced ploughing the first field (12 acres) for turnips, mangolds, and potatoes, and although it had been twice previously ploughed since harvest, once in September and again in February, in consequence of the wet season it turned up in stiff, glazed furrow, so sodden that it was necessary to let it stand three days to dry before it was fit to work. Three men and a boy with ten powerful horses, the Crosskill roller, the new 8-horse cultivator with double shafts, and Howard's heavy iron harrows, were now set in full play upon this field. About 1 acre in the corner of the field was first prepared for potatoes, which were planted, but it was not until the end of May that the remainder was considered in a fit state to sow. The rowing-up process had scarcely commenced when a terrific thunderstorm came on, and in less than three hours the land had become so overcharged with water that streams commenced cutting their way down the field (which was on the slope), and running out through the hedge at the bottom. So thoroughly soaked was the field that for four clear days it could not be touched. The ploughs were now brought into requisition again, and, to avoid treading as far as possible, single teams of three horses each were put to work. The same drying and breaking process had to be again gone through, but this time it was much more difficult than at first, and, when the field was rowed up ready for manure the first week in June, it was

nothing but a mass of small clods, which even defied the efforts of a heavy stone roller, which had been brought to the aid of the Crosskill. Farmyard and artificial manures were applied and the seed sown, but, in consequence of the condition of the soil, very few plants came up, and those no sooner made their appearance than they were taken at once by the fly. A few hours of rain, however, now set in and softened the clods, a roller was applied over the rows, and this had the effect of causing a few more seeds to germinate, but the plants were so weakly as not to be worth leaving. The would-not-be-beaten farmer, however, put the horse-hoe and double-mould board plough to work and re-ridged the field, adding at the same time another slight dressing of artificial manure, and put in fresh seeds. The land by this time had again become very dry, and, although a somewhat finer tilth was obtained for the seed, it was much too dry for it to germinate freely. Still more plants appeared, and again the fly set to work, and again the energetic farmer set to work also to prevent the whole of the plants being taken. He had a sack cut open, the one end of which was attached to a pole, one side of the sack being smeared thickly over with tar. This was drawn by a man over the rows as a sort of fly-catcher, the idea being that as the fly jumped it would stick to the tarred sack. Fresh tar was applied as often as necessary. How far this novel plan succeeded in destroying the fly I cannot say, but it did not succeed in saving the crop, for the few plants that escaped failed to make a crop worth leaving, and the field was ploughed up in the autumn for wheat. The cost of planting this field, 11 acres, with turnips (1 acre having been planted with potatoes), could not have been less than £12 per acre, or £132. The second field (10 acres) was sown with common turnips late in the season, but the crop was little more than leaves, the bulbs being

exceedingly small. This field I estimate to have cost £9 per acre, or £90. The sowing of the third field was abandoned as the season was too far advanced, and the field a mile and a quarter from the homestead. *The rotation was thereby completely upset.*

I have merely given this as an instance (not at all an exceptional one) of the difficulty of carrying out a defined system. It is true that, on such farms as this, the bean crop could be substituted for the root crop on a portion of the land, but the raising of this crop also has its serious drawbacks. It is a risky crop at best, and the most promising plant in the autumn often turns out very disappointing through having suffered serious damage from frost, blight, or other causes. The haulm, too, is not so serviceable as good clean straw. Again, the harvesting of this crop is often such a long process that the field cannot be cleared in time to properly cultivate and clean it for the crop of wheat which is intended to follow.

There is yet another matter which renders the four-course system difficult to carry out advantageously in these days, and that is the all-important question of labour, which I have before alluded to. In my opinion this is one of the most difficult questions the farmer of the future will have to contend with. On arable farms the question of rent will be quite a secondary consideration. It is not altogether that he will have to pay a still higher wage, to which I may say that there would not be so much objection, provided there is an increase in the quantity as well as an improvement in the quality of the work done; but the experience of recent years has, I am sorry to say, taught the farmer that this is too much for him to expect from the labourer of the future. This opinion appears to be confirmed by many of my correspondents in different parts of the country. Under these circumstances, it will be necessary for the farmer

to consider whether he cannot reduce his labour bill by making certain modifications in the four-course system, or whether he cannot adopt some other system, which will entail less labour and be more profitable than the four-course system under which he has hitherto been farming. If he is on a stiff land farm, he will probably find it to his advantage, if he has a large proportion of arable land, to lay a portion of it down to permanent pasture. In many cases this can be done to the extent of a third, and in several instances that have come under my notice it would not be at all impossible, by a higher system of cultivation, to make the remaining two-thirds produce as much as the whole has hitherto been doing. Again, if a farm is of a hilly, troublesome nature, or a portion difficult of access, or lying at a considerable distance from the homestead, thereby entailing much extra cost in horse and manual labour, I would at once lay down the most undesirable parts. Other points would also weigh with me in putting land down to grass, such as a cold or exposed situation, a bad aspect, a humid climate, land liable to blight, over-timbered or shaded fields, and so on: in fact, on all lands of the nature I have described, I would reduce my arable to the narrowest possible limit, keeping in view, of course, where a rearing stock is kept, the absolute necessity of having a certain quantity of straw for the use of the stock. But to meet this altered condition of farming I should have to deviate from the four-course. For example, we will take an ordinary farm of 300 acres, a considerable portion of which is of a rather heavy nature, one-half pasture and one-half arable, which has hitherto been farmed on the four-course. I would at once put down to permanent pasture 50 acres of this, so that would give 200 of pasture to 100 of arable, which I would crop as follows:—20 acres roots or other green crop, 20 acres oats or barley, 20 clover, 20 wheat, and 20 barley

or oats, whichever the land was most suitable for. This, of course, could be varied in different ways, say by substituting wheat for barley and oats on a portion of the turnip land, or by planting the clover ley with oats, and then wheat on the oat stubble—a favourite way with many, which I am not sure is not the best way of producing good crops on very heavy land, stiff clover leys, as a rule, not being at all favourable to the growth of wheat.

I would not, however, bind myself to any hard-and-fast rule, as an exceptional season, either too dry or too wet, or a failure of the crop from other causes, may upset any system of cropping. I am not opposed to two or even three straw crops in succession, providing the land is *kept clean and in good condition.* But herein lies the secret of success, and in the present day, unless a farmer is prepared to manage after this fashion, the less he has to do with arable land, particularly land of a tenacious character, the better it will be for him. I believe the majority of the farms in the country could, by better management, be made to produce a very much larger quantity than they now do. With a more energetic and systematic cultivation of the land in the proper season, thus keeping it clean, a much freer use of the best and most suitable kinds of artificial manures—more particularly for top dressing—to keep it in good heart, and a more careful selection of seed, the farmer will soon find his crops have very materially increased in bulk, as well as improved in quality. He will soon discover that where he formerly grew a ton of straw to the acre, yielding 20 bushels of grain, he can now grow a ton and a half, yielding 30 bushels, the extra produce more than doubly compensating him for the additional outlay in raising the crop.

I cannot too strongly emphasise, especially in these days of costly labour, the point that it is only the best crops

which pay to grow. A poor crop is a loss, a medium crop will only just pay its way, whilst a good crop will leave a profit. It is therefore for the farmer to consider, in the first place, what kind of crops his land is best suited for, and then to endeavour to grow those crops to perfection, and in such proportions as will best suit his requirements and means of disposal. If he is on a farm of a light friable nature, well suited to the growth of roots, and he has found no difficulty in growing them at a moderate cost, and that, hitherto, this crop has paid him well, let him by all means continue to grow it to the fullest extent; but if, on the other hand, he is farming land upon which it does not pay, either directly or indirectly, to grow roots to anything like the same extent as the other crops, let him not attempt it, but grow only such crops as will suit the land best, and prove the most remunerative. Let him spend one half of the amount hitherto expended in attempting to grow what the land was not suited for, in manure for top dressing his cereal crops, and the other half in cake or corn, and he will soon find that his labour bill has decreased, that the bulk in his stackyard has increased, that he is able to keep more stock, and to keep them much better than before; and, in making up his accounts at the end of the year, he will find his financial position considerably improved.

It must not be inferred that I am advocating a retrograde step by reducing the quantity of green crops and increasing the area for straw crops on lands not suited to roots, for I would have it carefully observed that I have first advocated the reduction of the arable land, and that to such an extent as to necessitate the growing of white crops oftener than the four-course will admit; otherwise a scarcity of straw for winter use would be the result, and I would also have it carefully borne in mind that, valuable as the root crop is in itself, and almost indispensable to a

certain extent, the cost of producing it is, on some lands, double that of the white crop, whereas its value, where grown to a large extent in proportion to the straw crops, is no more per acre than the latter. But in drawing this comparison we must not, of course, forget to credit the root crop with the condition in which it leaves the land for the succeeding crop.

It will, probably, be observed that but little has been said about catch or intervening crops, such as rape, vetches, rye, trifolium, &c., or of such crops as cabbage, kale, kohl rabi, &c. All these are excellent in their way, and I am surprised they are not more generally grown than they are, more especially the catch crops. It is true that the lateness of the harvest in many districts will prohibit their cultivation; but, where climate is suitable, a great deal more of these crops could be advantageously grown. When we consider how valuable they are for sheep feeding on the land, or for carting off either for the use of sheep, cattle, or horses in yards, or for making into silage, and so acting to a considerable extent as a substitute for the expensive root crop, we cannot but wonder why they are not more popular, especially in these days when artificial manures, so needful for the acceleration of their growth, are available at a low price. Indeed, now, that science has taught us how these manures should be used for the different kinds of crops, there should be no excuse for not growing a greater variety, and much less for growing weakly crops of any kind. Whenever a good plant can be obtained (and this, let me repeat, can generally be ensured by proper cultivation and a careful selection of seed), the farmer cannot possibly make a greater mistake than by neglecting to top-dress (if necessary) with a suitable manure, to such an extent as to ensure a full maximum crop. There is no outlay that I know of in farming that

will pay better; and, now that the farmer can claim compensation for unexhausted improvements, he is running no risk of leaving his money in the land in making such an outlay.

I am sorry to say that the Agricultural Holdings Act has not encouraged the cultivator of the soil to improve the land to the extent it was naturally expected it would do; but the cause of this is, I fear, not far to seek. Just before this valuable measure became law, a period of agricultural depression, almost unprecedented in history, had set in, and its very long duration has, even up to the present date, taken away the heart as well as the capital of many an enterprising farmer. The result, I fear, is that the land of this country, instead of being improved, has deteriorated during the last ten or twelve years. Landlords, in too many instances, failed to recognise, until too late, the terrible straits the farmer was put to, and thousands of honest, hardworking men had of necessity to succumb. The consequence was that farms, almost innumerable, were given up, most of them in an impoverished state, from which a large proportion have not yet recovered. This state of things ultimately brought about the inevitable reduction of rents, in many instances to such an extent as to seriously affect the income of the landlord, and to place him in such a position as not to be able to do more than the barest necessities in repairs, to say nothing of improving his estate. Landowners in a better position have also, I regret to say, ceased in many cases to spend the amount they formerly did upon their estates, being disheartened by having to forego the interest which had been promised them on the improvements they had made. Capitalists, too, have lost faith in land in this country as a security, and are investing in the soil on the other side of the Atlantic; a dangerous game in

view of the threatened legislation as against foreign owners. In fact, a great number of landowners in this country would only be too glad to get rid of their properties, if they could find purchasers. The thousands of acres, which are continually offered at the London and provincial marts, go to prove this, and so glutted has the market been for some years that land can now be bought to pay from 4 to 4½ per cent., whilst consols are only paying 2¾.

This want of confidence in landed property, and, I may say, disregard, on all sides, of the land of the country, has created a slovenliness in its management, and, in many districts, a general lowering of the standard of agriculture. If the landlords wish to improve this state of things they must have more confidence themselves in the property they possess, and, to manifest this, let them again take more interest in their estates, and encourage good farming by liberal agreements, and by assisting, when necessary, all enterprising men, allowing them full freedom in cropping, providing the condition of the farm is fully maintained, and let them discourage bad farming by getting rid of the sluggard and sloven on the first opportunity.

If I had had the time, and it was considered necessary to go into figures, I could probably have shown, more clearly than I have, the relative value of the different crops; but, as this point would have to be treated in a very detailed manner to show the difference in cost on the various classes of soils, I have not gone into these calculations. I may, however, say, in conclusion, that the views I have endeavoured to put before you are chiefly the outcome of my own experience of a business in which I have always taken the greatest interest, and also of my own practice on a mixed farm of nearly 400 acres, which I have held for the last 20 years. I fear I have somewhat exhausted your patience,

and I can now only thank you for the attention with which you have listened to me.

Mr. E. P. Squarey (Past-President) said he was sure he would carry with him everyone in the room in proposing a vote of thanks to Mr. Morris for his Paper, which had been expanded into a most comprehensive and able review of farming in all its branches, and Mr. Morris had dealt most exhaustively with the various systems adopted by agriculturists at the present time. The author's extensive experience, and the mass of information he had gathered from his various correspondents in all parts of England, combined to make the Paper most valuable. There were some few points in it, however, upon which he would venture to comment. The author seemed to have been in some doubt, as were most of his correspondents, as to the date of the commencement of the four-field system; but he believed that it started with the growth of the inclosure system, *i.e.*, from about 1790 to 1820. Those who shared the burden of age with him would, no doubt, remember that up to that time the three-field system obtained on almost all the uninclosed land in England. He had the management of property which nearly adjoined what, he believed, was the last and largest of the common fields of England, Fordington Field. He did not know whether the lands near Royston in Cambridgeshire, had been yet inclosed; but, however that might be, there was at Stratton, Dorset, a parish which was still uninclosed. Many of the divisions of it were but a few yards wide by as much as, perhaps, a quarter of a mile in length, and the sheep and cattle on them were fed in common —the whole arrangement being, probably, very much as it was in the days of the Saxons. He need scarcely say that no very

great crops were grown, though there was some very good land there, and the valuable results of inclosures were clearly evidenced by the decreased produce from the lands under the three-field system obtaining on the uninclosed lands at Stratton, as compared with that obtained under the newer systems.

He thought Mr. Sewell Read's description of the four-field or Norfolk system, modifications of which obtained over a very large portion of the chalk districts of the south of England, absolutely perfect, and that there was nothing more to be added to it. Farmers in the chalk districts had very generally adopted a modification of the four-field system, thus—first wheat, then barley, then clover sown on a moiety of the area planted with barley, which was allowed to remain for two years; on the other moiety rye and vetches were sown, followed by turnips, which again were succeeded by mangold and turnips, followed by wheat. Thus, instead of an alternation of wheat, barley, and two years' grass, the crops were changed alternately, so that the one-half of the land was sown to barley and then with grass seed; in the following fourth year were sown mangolds, swedes, turnips, or rape. Those crops were fed off during the winter, and the land was then manured for another crop of turnips and mangel-wurzel; after which the land came into wheat again concurrently with that coming into wheat after two years' ley. But the prevailing depression in agricultural matters had made it necessary to try, like Mr. Morris, to see how the cost of labour could be reduced, and so on the lighter lands—the thin lands on the hills—a system had for some years been adopted under which, instead of having one-half the arable land in cereals, straw-crops were put on two-fifths with one crop of turnips and two crops of grass, finally breaking them into turnips

or wheat, as the case might be, and that system had been found to work very well.

It was clearly obvious that, with the decreased value of cereal crops and with increased cost of labour, it was advisable, where possible, to allow the grass crops to remain three, four, or even five years; and that fact emphasised the value of Mr. Morris's remarks, to the effect that the farmer could not be too careful in his selection of grass seeds in order to ensure that the grass sown should remain for three, four, or five years, instead of having to break it up in order to clean the land for good seed afterwards.

The catch crops to which Mr. Morris had referred were limited, he thought, more or less to the south of England. Of course, farmers in the south had a better climate for some purposes than that of Shropshire, although, during 1890 and 1891, the southern districts had had more rain and frost than those further north. He hoped that good times would again return to the south, and enable the farmers still to pursue their system of catch crops, by which the fertility of the land was increased, and grow some of the most useful crops for their stock. Being himself a Hampshire Down man, he might be pardoned for saying there was, probably, no variety of sheep brought to earlier perfection and maturity than the Hampshire Down lambs, as reared in the counties of Dorset, Berkshire, Wiltshire, and Hampshire; and this result had largely been brought about by the application of the catch-crops.

There was one crop to which Mr. Morris had not referred, but to which farmers in the south of England, and indeed, in the Midlands too, were largely indebted. He referred to sainfoin, which was one of the most magnificent gifts of nature to stock and stockowners, lasting, as it did, for

six to eight years when properly laid down, and being of the most nutritious character. It fattened sheep and made them extremely healthy—more, probably, than almost any other crop grown—and might almost be used to make a five-field course, with wheat to follow it, for which it was very well adapted.

He further agreed with Mr. Morris that there must be an absolute elasticity with regard to cropping. Given brains and experience, farmers ought to adapt themselves to circumstances, and endeavour to get the best crop from the land which could be got under any given conditions, whatever they might be. Surely that was the key to all good farming. As a land-agent, he ventured to say that any landlord who stood out for the adoption of any one system of crop rotation on his estates would have, as he would deserve to have, no tenants to carry out his ideas or his fancies.

"Finger and toe" and clover sickness were, no doubt, very serious ills; but, as a known fact, "finger and toe" was absolutely curable by chalk and lime. The germ, whatever was its form, which produced "finger and toe" was unable to exist in contact with lime, and where it was applied crops grew perfectly. Clover sickness also was curable by an application of chalk and lime, and, if necessary, gypsum.

A gentleman in Hertfordshire, Mr. Prout, had, year after year, grown on the hills in Hertfordshire one particular variety of cereal crops, and had carried on this system for years, entirely by means of artificial manures. He sold everything from the lands to replace them by artificial manures, and apparently did so at a profit. But, if the system were carried out at a profit, it was a little strange that it should have ever been given up, and that what, on the face of it, looked so much like a commercial success had not been adopted continuously and successfully by other people.

With reference to the application of artificial manures and the growing of the largest possible crops, and reducing the area of the arable land, he might mention that his partner (Mr. Rawlence), a gentleman in his 82nd year, who had been farming ever since he was 15, had told him (Mr. Squarey) that over every inch of his arable land he used a top dressing of nitrate of soda; and, without boasting, he might say that on very thin land and inferior quality of land in some parts, his crops were simply superb —not only because he used nitrate of soda, but because by high feeding his sheep and dairy cows he kept the land in splendid condition, and then, to crown all, he gave it two doses of about three-quarters of a hundredweight per acre of nitrate of soda, to keep it in order.

Mr. J. W. Kemsley (Fellow) said he was sure that all present were much indebted to Mr. Morris for his admirable Paper. It was on a question as important as any the Institution could consider, and one almost of life and death to some of the best men of this country, and any light that could be thrown upon such a question must be most welcome. Mr. Morris had seemed to him to touch the *crux* of the whole matter when he spoke of endeavouring to increase the tenant's profits without injuring the landlord. That was just another way of saying that the principal crop, under any course and under any conditions, which a farmer ought to endeavour to grow, was money. No matter how good and clean his farm might be, no matter how perfect his course of husbandry, or how heavy his crops, if he did not grow money his farming must sooner or later come to an end. How then, with unkind seasons, with dear labour, with low prices, and in the face of other evils, could land be made to pay for cultivation and leave a margin for the

landlord? This was the problem which many Members present would much like, as he himself would, to be able to solve, and they ought all to be grateful to Mr. MORRIS for bringing the question before them.

But it was much more easy to give a diagnosis of the disease than to suggest a remedy. It was easier to show that free trade and increasing taxation and foreign competition had brought farming to its present condition than to show the royal road leading back to agricultural prosperity such as he was old enough to remember in the fifties and the seventies of this century. In his Paper Mr. MORRIS had spoken of trying to find out the system of farming which would pay best in the present day, but it seemed to him (Mr. KEMSLEY) that it was not only the time that was to be allowed for, but the place, the geographical position of the farm, its distance from a railway station and a market, the quality of the land, and many other factors.

On page 133 of the Paper it was said that clover sickness was not so much complained of now because attempting to grow it every fourth year was, to a great extent, given up. He (Mr. KEMSLEY) had never given it up, for the reason that he had never adopted it. He had never attempted to grow clover more than once in seven years, but yet he had to complain more and more of losing his clover plants. He once had a very capable bailiff, who used to say that the worst farmers got the best clover plants. He (Mr. KEMSLEY) was inclined to think that steam ploughing and frequent cultivation did away with the tightness of the soil which clover loved, and he had lately tried sowing his clover after wheat instead of after barley, as seemed to be advocated in the Paper, thereby starting with the land rendered tighter by the winter weather. He knew it was rank heresy to say it in that room, but he must even confess

to having grown clover on his best lands after two wheats, and that meant generally a good year, for clover, if got well, is a most important crop. He quite agreed with all the Paper had said as to rye-grass not being a good preparation for wheat, although it must sometimes be sown. He quite endorsed the reader's remarks as to the necessity of obtaining, if possible, the seed free from couch-grass, as from some reason or other rye-grass leys were too often found to be full of this pest.

Speaking generally, he thought—and he hoped he would be excused the expression—the Paper was a little too "turnipy." There was a saying in his part of the country that it was a good plan to prepare the land for turnips and then forget to sow them, and he really thought there was something in it. In his opinion a little too much stress had been laid on turnip crops, although it was, perhaps, sometimes advisable on sheep farms to grow as many turnips as had been suggested.

He noticed that in the Paper no allusion had been made to fruit farming as a possible variation. He had been very much interested, a year ago, in going over Lord Sudeley's farm in Worcestershire, from which everyone might, he thought, learn something. He had also had the pleasure, lately, of transferring a farm of which a tenant had planted one half with fruit, and when he asked for greater security of tenure the landlord had offered to sell him the farm. The farmer bought it, and had now covered the whole of it with fruit, with the result that it was a credit to the neighbourhood. He (Mr. Kemsley) did not see why there should be such large quantities of foreign fruit imported into this country, when it could be grown so well at home. And so with many other crops which could be as successfully grown by us as by the foreigner.

After all, he supposed the real difficulty was with the poorer land. It was comparatively easy to deal with the best land, but what was to be done with hungry and impoverished arable lands? He supposed it was such lands that Mr. Morris had in his mind when he wrote the Paper, and referred so rightly to the great cost of labour and the difficulty of meeting it. He thought Mr. Morris was right in theory in laying so much down to permanent pasture, though in theory only, for there was no doubt that to throw a lot of land into permanent pasture would be a good thing if one were farming for the next heir; but he was not quite so sure it would be the best thing to do if he were doing it for the present landlord with a view to an immediate balance sheet.

It was not so very easy in practice to get old pastures out of poverty-stricken land. They did very well for a year or two, but after that they required renovating mixtures, top-dressing, the dung-cart and other expensive encouragements, not often easy to obtain for these fields, which are too often at a distance from the farm, and not so grateful as other lands, and even then they did not do everything expected of them, but slowly ran back to couch and water-grass. He, personally, was in favour of sowing sainfoin, lucerne, clover or grass, according to the land, ploughing them up after two or three years, then growing a white crop or two, then fallow, then another white crop, and then laying them down to seeds again.

He had listened in vain during the reading of the Paper for the word "bare fallow," but he could not hear the legitimate word at all. A "bastard fallow" was referred to, but that was a different thing from the old-fashioned "bare fallow." It found employment for men and horses during the early summer, and in the end saved much

labour on the land. What had been suggested as to variation from any given system, he heartily endorsed. Let everyone concerned use, as Mr. Squarey had said, his brains and experience, and not tie himself to rigid systems of farming because somebody else had suggested them; and he did not know how brains and experience could be better used by people connected with agriculture than by seeking a way by which they could most successfully grow that most excellent of all crops, money, in times of agricultural depression.

He had much pleasure in seconding the vote of thanks.

Mr. Clare Sewell Read (Visitor) said he had listened with considerable pleasure to the Paper, but he must confess that he had not the remotest recollection of ever having written one single word of those quoted as his; and he was surprised, as well as flattered, to hear Mr. Squarey say that his remarks contained all that was to be said about the four-course system.

With regard to the four-course system of Norfolk, he had been looking through Arthur Young's Report of 1804, and found that the four-course system of husbandry had then commenced with the cultivation of the turnip; therefore, so far as Norfolk was concerned, it might be taken that the system had been in vogue for nearly one hundred years, and had, during that time, been deviated from very little even by those who had the opportunity of growing just what they pleased. He himself thought that Norfolk farmers would do wisely in varying it a little more. He had, happily, given up two farms, and had only one now, of four hundred acres, on a very nice mixed soil—some of it a little too stiff, and some of it a good deal too light—and upon the light-land portion of the farm he kept the seeds

down two and, sometimes, three years. Upon the heavier portion of the land he generally grew a crop of barley after wheat, that being invariably of a better quality than when grown after roots, and especially was this the case when the roots had been fed off by sheep. The reason why farmers in Norfolk had grown, of late years, a very inferior sample of barley was, first of all, because they had had cold and wet seasons, which were very unfavourable for a good crop of barley; and next, he fancied, because in some winters they had too heavily dressed the land, with the consequence that the crops were laid early in the year.

He quite agreed with what Mr. SQUAREY had said about "finger and toe." No doubt, in his (Mr. READ's) county it did increase somewhat, because they had entirely given up the old-fashioned plan of marling or chalking the land. That plan had gone out of fashion in other districts besides his own; but he was quite sure the evil could be cured by the application of lime, which he had never known to fail. But when Mr. SQUAREY said that clover-sickness as well was to be cured by the same means, even with the addition of gypsum, he (Mr. READ) altogether differed from him on that point.

The frequent repetition of red clover was a mistake; one ought to allow the land to rest for eight or sometimes even twelve years at a stretch before sowing it again with clover. What Mr. SQUAREY had said about sainfoin was very pleasant to hear, if it were a fact that it was possible to keep sainfoin down for seven or eight years. He had tried to keep it down for three years in Norfolk; but he was sorry to say he found that in the second year it died out. He wished it could continue, because he was quite sure that in Norfolk it would be grown a great deal more extensively than it was. The same was to be said about lucerne which would thrive

on a greater variety of soils than sainfoin. It was at present chiefly grown as a fodder plant, because it was found that it would last for a number of years, and it would produce a larger proportion of herbage in a dry summer than any other plant of which he knew.

With what the author of the Paper had said about labour he entirely agreed. Farmers ought to grow, if possible, something which did not require such a large amount of manual labour as the four-course system did. But when it was said that in the Midlands the land ought to be put into pasture, he would reply that there was a good deal of land in East Anglia that would not go into pasture at all; the very light lands would not grass over, but would keep down, perhaps, for two years, and the third year die completely out.

With regard to the heavier soils, they in Norfolk were considered to have heavy land, and talked about their stiff clays, which had all to be ploughed with two horses. He supposed gentlemen from the midland counties would say that Norfolk farmers did not know what heavy land was; but if these lands were put down to grass it took a generation before they became decent pasture; and he therefore thought that an effort should be made to keep the land in cultivation, if possible.

Swedes were, he thought, becoming subject to a good many new diseases, which he supposed arose from the too-frequent repetition of the same crop; but the cultivation of mangel-wurtzel had very much extended in the eastern counties, and with very marked success, even on comparatively light lands, which in former days would most probably have been used for the growing of white turnips, and which were not considered good enough for swedes. It was astonishing how the small varieties of mangel would flourish upon comparatively light land. In this connection he might

say that in sowing mangel it would be a very good plan, during cold, dry springs, to have a little kohl-rabi seed mixed with it upon the heavier lands, and upon the lighter lands a few carrots. It was very singular, but it was a fact, that carrots would grow with very great success among a thin plant of mangel, and do the mangel no harm whatever.

He had made a statement which had been much questioned, that on his four hundred acres of arable land he had paid away last year as much as £850 for labour. It might be that £50 of that amount was spent in keeping the farm generally neat, and on other things that were not *absolutely* required, but these figures showed that his labourers got as much as forty shillings per acre. His landlord, after paying the tithes and land-tax and attending to the buildings on the estate, did not get above £1 per acre, and he himself got 10*s*., which was something like a rate of 4 per cent. on the money invested. Therefore, when he heard it said by politicians that the labourer did not get his fair share of the produce of the land, he could reply most distinctly that there was no period of the labourer's existence in which he was receiving such a large proportion of the produce of the land as he did at the present time.

The Agricultural Holdings Act had been referred to, and he was very sorry to have to confirm the observation of the reader of the Paper, that the benefits of the Act did not extend to those parts of the country where it was most wanted. Where there was a good system of tenant-right, no Agricultural Holdings Act was required; but where, as in Norfolk, there was no tenant-right whatever, one would fancy that the Agricultural Holdings Act would be a great boon. He had made inquiries this last Michaelmas, and had found that, out of 300 cases in which farms had changed hands, the Act was only applied in three cases, and two of these were cases

in which the farms belonged to one man, so that the tenant simply went out of one of his farms into another. Now, farming might be about as bad in Norfolk as elsewhere, but he (Mr. READ) could not help thinking that out of 300 cases there must have been some good farmers who ought to have been compensated for some of the improvements they must have left behind them. He would not say whose fault it was in Norfolk, but he did not think that either the landlord or the tenant was to blame.

Reference had been made by Mr. SQUAREY to Mr. PROUT's scheme of growing continuous corn crops on heavy land. He (Mr. READ) had thought it was a decided success, and had tried to follow the example. He tried what was called, in Norfolk, "heavy-land farming," and he went at it with a great deal of zest and a fair amount of pluck. He drained the land, and steam-cultivated it, and heavily manured it, and went in for continuous corn crops, with the result that, in the first instance, he could not keep the weeds down, and secondly, that although he did not sell off the straw, as Mr. PROUT did, yet he found that year after year the crop got less, so that he eventually decided to adopt a course which entailed less loss.

The only other observation he would make was, that farmers in the eastern counties must continue to grow wheat if they would keep the land under cultivation at all. He had tried to substitute some other corn crop for it, but he found, in the first place, they could not do without the straw necessary for a large number of stock. They did not sell it, but kept it, in order to make good manure. Wheat was, in his opinion, the easiest, the hardiest, and altogether the best cereal to grow in that district, and he considered it was impossible to do without the crop of wheat in the eastern counties.

Mr. W. Wright (Fellow) having moved the adjournment of the discussion, and the vote of thanks having been put and carried by acclamation, the proceedings then terminated.

No. 304.

AT

THE ORDINARY GENERAL MEETING

Held on Monday, February 1st, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

The adjourned discussion on the Paper by Mr. E. H. Morris (Fellow), entitled "The Four-Course System with Desirable Variations," was resumed by

Mr. W. Wright (Fellow), who said that, having had practical experience of the various systems of cropping in several counties in England, he agreed generally with the conclusions arrived at by the author of the Paper. The four-course system had, no doubt, been in existence for a very long period: he had himself traced it back in old farming and cropping books for about eighty years, and it was undoubtedly in itself a very good system of farming. Altered conditions had of late years led to its modification in many ways, but it was still, as most of those present knew, admirably adapted to a great many farms, although on others it was utterly useless. It had, no doubt, been adhered to upon many large estates, much longer than would otherwise have been the case, in consequence of the existence of very old-fashioned agreements entirely unsuited to the present day. A tenant should be allowed to crop his land according to whatever system suited it best, provided that he kept the land clean and in good condition, and that, in his last year of tenancy, he left a proper proportion of

turnips or green crops against the area of corn. He thought the tenant ought first of all to find out what system or rotation of crops best suited his farm, and then to farm accordingly in a rotation (allowance, of course, being made for exceptional seasons), and that he should not, in his own interests, crop the land in a haphazard fashion, without any principle or system. If a farmer grew good crops every year, and kept a large head of stock in cattle and sheep, it might be taken for granted that his land would not go far wrong.

The deviations from the old four-course had, in different counties, been very many and very various according to climate and circumstances. In Nottingham and Yorkshire, many farmers appeared to like a five-course shift, running somewhat as follows:—wheat, barley, seeds, oats, roots,—and they found that a much better sample of barley and a much better yield was obtained after the wheat crop than after turnips or other roots, from the fact that the barley crop stood up better. In the county of Shropshire, on the best-managed land, there was also adopted a five-course system rather different from that he had already referred to, and which was as follows:—wheat, roots, oats, barley, clover. The roots (or more than half of them) were eaten off by sheep fed with corn and cake, which, as a matter of course, made the oat crop following a very heavy one indeed. The oat straw was also valuable, and exclusively used as fodder for cattle. The barley after the oat crop was always a success, because it stood up well and did not get laid so as to spoil the sample or the yield. The farmers found the seeds after the barley always flourishing, and just before they came round again to the wheat crop, the clover root, well known to be so beneficial to that crop, was always manured in the autumn before the wheat was sown. There were very few estates in Shrop-

shire where the old-fashioned four-course shift was adopted as a hard-and-fast rule. Many of the estate agreements provided first that not more than two white crops should be sown in succession, and then that the land was "to be "kept clean and farmed according to a rotation"; meaning thereby that the tenant had to find out the rotation that best suited his land and crop it accordingly. Then, again, every year, a certain area, dependent upon the rotation adopted, had to be sown with turnips or other green crops. This, he thought, was very like what was called freedom of cultivation. Freedom of cultivation was a rather hackneyed expression, which sounded very nice and liberal, but people in the country often found from experience that it simply meant unchecked robbery. Shropshire agreements and systems, however, seemed to meet the difficulty, and to give what was practically freedom of cultivation, whilst at the same time they provided for the land being kept clean and farmed with a proper rotation of crops.

The Leicestershire custom, where the six-course prevailed, had been dealt with in the Paper, and he would not take up time by repetition, though, as an owner of land in that county and retaining one of his farms in his own occupation, he could have told a good deal about it. He would only remark that, by leaving clover in seeds for two or three years, the land naturally got a rest, and this rest, besides saving labour, was of very great benefit to the soil itself.

Beans and peas were frequently sown in the green-crop shift for a change. According to his experience beans were all very well, but there was a very great objection to growing peas, because they were so filthy and filled the land so full of rubbish. Nobody could farm successfully unless he rested his land and kept it clean, and the man who would farm with profit must first thoroughly cleanse his land, and then

adopt the system or rotation which suited it best; the real secret of success being that a man should understand his land. People were constantly trying to farm land when it was not clean, but it always beat them and brought them to grief in the end. In addition to all this the farmer must take care never to miss his season, for if once he did so, and failed to get his crop in at the right time, it would go hard with him.

An allusion had been made to lime, and, no doubt, considerably more might be used throughout the country with advantage, but the cost of labour and the expenses incident had very much curtailed its use for several years past. The area of wheat had considerably decreased during the last few years, and amounted to probably not more than two-thirds of the acreage sown with that crop 30 years ago. Wheat was a very expensive crop; for, by the time the corn was ready for the market, he did not think it could be worked out under £7 10*s.* an acre, not reckoning anything for interest upon dead capital, or wear and tear; and, with the price at 35*s.* per quarter, this was no very profitable speculation. One could not, however, do very well without the wheat crop and wheat straw, and then, again, wheat being sown in the autumn, the work of the farm, both for men and horses, was more evenly divided over the year between autumn and spring.

At the last Meeting Mr. Sewell Read had made some remarks with reference to wheat crops, which, as might have been expected to be the case with any observations by that gentleman on agricultural subjects, were true to the letter, and no further time need be taken up by endeavouring to elaborate them.

The reduction in the area of wheat and other corn crops, and the increased quantity of land given up to grass or laid away (for in his opinion a great deal of it was, unfortunately,

not grass at all, but only waste space), was greatly owing to the increased cost of labour. He was afraid that the labour question was going to be the great trouble for agriculture in the future, and he thought it was not considered so seriously as it should be. The cost of labour had increased 40 or 50 per cent. within the last 30 years, and, in addition, farmers could not get an adequate supply of labour when wanted. This drawback to successful farming could not be measured simply by the rise in men's wages, for, as all knew in the country, it took at least four men nowadays to do the work that three men did 30 years ago. Often the time at which one wanted to make a push and have the most labour was the very time one could not get it, and all know in farming that if the season were missed by a single day great loss and disappointment followed.

The author of the Paper had alluded to the lowering of the standard of agriculture, and also to the want of interest taken by landlords in their tenants and estates, but he (Mr. Wright) sincerely hoped and believed that this had been somewhat overstated. He thought that one of the redeeming and (if such a word might be applied) pleasing features in recent years of agricultural depression had been the way in which landlords and tenants had been brought together to face each other's troubles and difficulties, and the personal interest that many landlords now took in the practical management of their property, which in more prosperous times they were, perhaps, a little apt to overlook.

There were many points in the farming interest connected closely with the subject, but as he was trying to confine himself within the limits of Mr. Morris's Paper, he would not further trespass upon the time and attention of the meeting.

Mr. J. Shaw (Fellow) said he was glad to have an opportunity of taking part in the discussion, for he believed

that Mr. Morris's Paper was a most valuable one in many ways, and not least so with regard to the mass of information which he had been at the trouble to gain from many authoritative sources. In 1860 Mr. Tuckett had written a prize essay in the "Royal Agricultural Society's Journal," on the modifications of the four-course system which modern improvements had rendered desirable. That essay was written at a time when modern improvements had principally to be considered, but in these days, unfortunately, modern disadvantages were the most serious matters for consideration. As to the date of introduction of the four-course system, Arthur Young, writing in 1772 upon Norfolk, said:—"All the country from Holkham to Houghton was a wild sheep-"walk, before the spirit of improvement seized the inhabitants, "but instead of uncultivated wastes the country is now all cut "up into enclosures, cultivated in a most husbandlike manner, "richly manured, well peopled, and yielding a hundred "times the produce that it did in its former state." He (Mr. Shaw) always thought that the late Lord Leicester was a pioneer in this great movement, and, as he was born in 1754, he, no doubt, took a very active part in the movement. There was to be found in the "Farmers' Magazine" of 1800 an article on the agriculture of Norfolk. It stated that the celebrity which this agriculture had then obtained was, among other causes, due to the turnip system. The writer said:—"The turnip system, being early introduced, "proved of essential service in bringing the numerous and "originally barren sands of the district into a fertile and "proper condition." These extracts went to confirm what Mr. Sewell Read had said on the point—a point not in itself, perhaps, of so much practical importance to those present, but which was a matter of history, and as such might be worth notice.

In his own experience he found the four-course system

answer very well upon light soils, care being taken not to have two clover crops too close together, and clover, when sown, allowed to lie two years, or sometimes three. He had some farms under his management where the tenants kept a very large number of stock, and required a great quantity of roots to feed them, and the system of growing alternate white crops and green crops prevailed, with occasionally the introduction of seeds in the sixth, and sometimes in the eighth or twelfth, course. In his own district the system which Mr. WRIGHT had referred to as prevailing in Leicestershire was found to be the most profitable that could be adopted, *i.e.*, the six-course system giving two or more crops of seeds. He thought it was good for the land to get rest, and if cattle fed with cake and corn were grazed upon it the land became very much improved, was in much better heart, and could be ploughed up again with advantage. During the late depression in agriculture the question had arisen as to what should be done, under the low prices of corn, with land not particularly valuable for cultivation. In a certain instance within his own experience he had recommended that the land should be put down in seeds for six, eight, or ten years, according to circumstances. This had brought it into good heart; the seeds and early grasses had been very beneficial, and the land was in a condition to be ploughed up again whenever the price of wheat should rise. In fact, in that particular instance, the tenants were considering whether it would not be better to plough it up next year instead of letting it lie longer. He noticed that Mr. MORRIS had given a very graphic description, on pages 145 and 146 of the Paper, of the difficulties encountered by a friend in carrying out the four-course system on unsuitable land, but he (Mr. SHAW) had known that to be done on many occasions. He presumed some of those present would remember Mr. HUXTABLE, of Gloucestershire, who many year

ago said that it was not necessary to have a dead fallow on any kind of land, but that, with proper cultivation, there might be grown first a white crop and then a green crop, as long as one liked. That plan had, unfortunately, been adopted in many cases, and he (Mr. Shaw) believed that much of the strong land of the country had got over-ploughed through the attempt to make the system succeed.

It might answer in good weather, for then one could cultivate land pretty much as one liked; but farmers had also to deal with bad seasons. He would refer to what Mr. Kemsley had said as to dead fallow, and he quite agreed with his remarks. He (Mr. Shaw) remembered that many years ago the method of farming strong land was on a six, seven, eight, and sometimes a nine course system, but not more than three straw crops were taken in the course. The turf or seeds were broken up, and then sown with oats—afterwards with wheat. Then there was a dead fallow which was well limed. He agreed with Mr. Wright that sufficient attention was not now paid to liming land. If after fallow, wheat or barley, as the case might be, was put in, and then two or three or four years of seeds, the land was kept in very good heart, and farmers got most produce at the least expense, or, in other words, the most profitable farming.

With reference to agreements, a great deal had been said in the Paper as to the insertion of clauses laying down a particular rotation of cropping. In his early days the rotation adopted depended upon the description of the farm, but for years past he (Mr. Shaw) had done away with the plan of specific rotations except in so far as to provide that the land should be well farmed, and that at the expiration of the time it should be left in the fourth, fifth, or sixth course, according to which system was applicable to the

land. Since the passing of the Agricultural Holdings Act the only condition that he imposed was that the tenant should manage the farm according to the most approved practice of good husbandry, and that at the end he should leave a fair proportion of the arable land fallow, and a fair proportion in clover or grass seeds, sown during the last year of the tenancy, and, most important of all, that he should leave the whole farm in good condition. He had been sorry to hear Mr. Clare Sewell Read say that the Agricultural Holdings Act had been a failure in Norfolk, and he did not understand how that could be, because the Act applied to all tenancies, excepting leases which had not yet fallen in. Perhaps not directly, but indirectly, the Act had, he thought, been of great benefit in arrangements between landlords and tenants. In his Paper Mr. Morris said that farmers must try to find out which of the systems paid best in the present day, and whether any defined system would pay better than an undefined one, and with this remark he (Mr. Shaw) agreed. In former times farming was to a great extent a mere matter of routine, but in these days, in the face of foreign competition, and the consequent decline of agricultural prices, it was very important to determine whether any one system was best and most profitable for any particular farm. In some counties where there were large arable farms, a change of system was, perhaps, not so much required as in localities where mixed husbandry prevailed. In many districts the milk trade had been for many years most important, not only as being a source of profit, but also as providing ready money to enable farmers to carry on their business. The best policy on a milk farm was to keep up a regular supply—an easy thing to do in summer, but difficult in winter, and it was therefore necessary to grow crops suitable for keeping the cattle during the whole year, and for bringing in young stock. On sheep farms a different

arrangement was advisable, but in all cases it was necessary to consider the particular farm to be dealt with.

He would have been glad to see more attention given in the Paper to the question of cheese-making. He believed that in making cheese and butter farmers had made no progress, while immense quantities of these products had to be imported from abroad, and he earnestly hoped that technical education would be the means of introducing a better system of butter-making than prevailed at the present time. He had an opportunity last year of seeing a good deal of cheese-making in Cheshire, and in some of the best dairies he found that the cheese was made by the farmers' wives and daughters, well informed and educated women, who took very great pride in showing him their dairies, and evidently assisted largely in effecting profitable farming. He could only wish that this was more generally the case.

The labour question had been alluded to in the Paper, and he agreed that it was one of the most important points which had to be dealt with at the present time. Not only had higher wages to be paid, but an inferior article had to be accepted for those higher wages. Men could not be found to do as much work now as they used to do, and there was, in addition, very great difficulty in keeping them on the land. In his own district the remedy had been tried of supplying the tenants with a sufficient number of cottages for their labourers; but the men were not satisfied, and the scheme was, unfortunately, not answering as well as it was hoped it would. So lately as Saturday last, in two adjoining parishes, on farms under his management, there were six or eight cottages, so let, unoccupied. Cottages, according to his experience, had been greatly improved within recent years. Cottage rents in the country were low; allotments were numerous, and there was no difficulty in obtaining

them, or generally in getting small holdings. He thought farm labourers had many advantages, besides their increased wages, which they lost when they went to the towns. Still, the fact remained, that it was difficult to keep the labourers on the farms. The present state of things appeared to him to be the outcome of increased railway facilities, and the altered state of the country and of the habits of the people. Farmers were frequently short of occasional labour, for in these days the village shops and the village tradesmen were dying out and everybody went to the towns, so that there was no reserve of men as there used to be in the villages. The village tailor and blacksmith, for instance, used to employ two or three men, and the wheelwright, perhaps, had two or three or even four men, who, on occasion, would always be ready to assist in the harvest; but now that was all changed. In justice to the farm labourers, he would say that they were still loyal to the land, but in his opinion the short-hours system was the great difficulty with which farmers had to contend. Those who lived near towns knew how impossible it was to induce men to work proper hours. Labourers saw that the men in the towns left off on Saturdays at 12 o'clock, and they did not like to stop till four or five in the afternoon, but he could not see how such hours were possible for farmers. The labour question was one of the great problems before the agriculturist, and whether more allotments or small holdings or other advantages would entice labour back from the towns to the land he could not say, but he thought that every attempt should be made to effect that end. This question was most seriously interfering at present with the management of land. Farmers could not now work at the same cost for labour as formerly, nor could they get the same quality of labour as they were once able to rely on. Whether by means of technical education

there might be trained a race of good all-round men, such as farmers once had, or whether a better state of things was to be brought about in any other way, it was difficult to say.

He would only, in conclusion, say that, whatever particular system was adopted, whether defined or undefined, he believed that successful farming depended on judgment, combined with energy and careful management of details, so as to get from any particular farm the greatest amount of produce at the least expense. It was quite impossible to apply any specific system to the different farms that one had to cultivate.

Mr. A. Buck (Fellow) said he was afraid that Mr. Shaw had taken the wind out of his sails, by dealing with most of the points to which he (Mr. Buck) had intended to allude. He came from a county (Worcester) where it would be impossible to force the four-course system upon the tenants. He thought, speaking as an agent with 40 years' experience that having regard to the varying nature of the soil, it was not desirable to insert any express stipulations in agreements as to the course according to which tenants were to farm their lands. The words he adopted in agreements were so much like those used by Mr. Shaw, that he need only say they were to the effect that the best system of cultivation applicable to the particular farm in question was to be pursued, and that the tenant should keep the land clean and in good heart and condition. He was quite sure that, supposing an action for dilapidations were brought against a tenant at the end of his tenancy, and came before an arbitrator who knew his business, damages would be awarded quite equal to any which would have been obtained by reason of the breach of an express stipulation as to the nature of the course of cultivation to be pursued. It was, perhaps, somewhat rash for him as an

agent to say it, but supposing a case of a tenant, under an agreement to farm on the four-course system, but who, in fact, farmed on, say, the five-course system; if the agent went on the land and found it in quite as good condition, both in respect of heart and cleanliness, as it would have been under the four-course system, then, he thought, no damages for breach of covenant would be awarded; for, to recover damages, damage must be shown.

A usual stipulation in Worcestershire was that pasture land must not be ploughed up, under a penalty of £50 an acre. In one case of which he knew the tenant and the lessor had been very good friends, but subsequently fell out, and each tried how he could get the advantage of the other. The landlord found that there was a piece of ground of 4 or 5 acres, described as pasture land, which had been ploughed up, and so claimed the penalty from the tenant, while the tenant asserted that it was allowed by the lease. So the matter came on for trial at the Assizes, and the Judge said strongly that if he had ploughed it up a penalty was incurred which he must pay; but the jury found that it was undoubtedly a fact that the land had been improved in value by the ploughing, and would give no damages on that account. The case subsequently went to a higher court, but no damages were recovered.

He (Mr. Buck) was a Kentish man, and in Kent the old course was—turnips, barley, seeds, wheat, beans or peas, swedes, oats—a seven-course system, and they used generally to manure with sprats or some other fish. When 40 years ago he went down to Worcester, he found that if there was one clause more insisted upon than another it was that stipulating that no tenant should grow two white crops in succession; but that clause was not inserted in agreements at the present day. The general rule was to give a tenant considerable latitude as to his farming; and ther

was no doubt that, even in these times of depression, a man who had ability, energy, and capital, would get a living out of the soil; but in what walk in life could a man not make his way and get a living if he possessed these qualifications? The difficulty was to find such men.

It was, he thought, diverging a little from the subject of the four-course system to introduce the labour question; but, no doubt, it was the most important consideration to be faced in the present day, and how the difficulty was to be overcome was a very serious problem. For his part, he thought it could, in a great measure, be met by restoring the villages to what they were supposed at one time to have been—they might be made more attractive in one way by building good cottages with larger gardens. He was in favour of larger gardens instead of allotments, and, in his opinion, much of the present difficulty was due to the fact that 50 or 60 years ago many of the tenements had been allowed to get out of repair, so that when the sons and daughters of the cottagers grew up they would not stay in them. He felt sure that if their homes were made attractive to them, and their whole surroundings more in accordance with ideas of the present day, it might be the means of inducing the rural population to return to the land. Until something of that sort was done, no great improvement in agricultural matters would be accomplished.

Mr. P. D. Tuckett (Fellow) said a remark Mr. Shaw had made forcibly reminded him how very fast time was passing; for it was 33 years since the Royal Agricultural Society offered the prize for the best essay on this very subject, which they awarded to him (Mr. Tuckett).

He had been trying to note the differences in current opinion indicated at the two periods, and he was surprised to find so few. He found the same references to the

failure of the clover plant through too frequent repetition, to "fingers and toes," and mildew in turnips; the same objection to rye-grass as a preparation for wheat. He thought that every rotation of cropping mentioned in the present Paper had been recorded by him 33 years ago. All this showed how very slowly agricultural opinion moves.

One change he did notice. A generation ago there was a desire to increase the breadth sown with wheat, at the expense of the barley and oats; whereas now the opposite tendency seemed to prevail. One point he might recur to in connection with seeds, which was not given in the present Paper, and that was the universal testimony to the superiority of mown over grazed seeds, as a preparation for wheat. A few years ago Mr. John Clutton gave an object lesson, by placing on this table two pieces of white thorn. One was a section of a fair-sized piece of timber; the other, a mere stick. Mr. Clutton told them that both were of the same age; the larger one had been allowed to grow without pruning, carrying all its leaves, which had absorbed food from the air, and deposited it in the shape of wood; the smaller one had always been kept pruned in a hedge, had absorbed little atmospheric food for want of more leaves, and had produced hardly any wood. The same thing applied to the clover plant. If allowed to attain its full growth (whether afterwards mown or folded), it filled the soil with a mass of root fibre (derived from the air through the leaves), which furnished an important food supply for the next crop. But grazed seeds, always kept short by sheep, produced comparatively little root fibre, and left very little food for the succeeding crop.

Mr. Morris's Paper contained a great deal of valuable information, and the very practical and appropriate remarks which Mr. Sewell Read seemed to have forgotten having written, were especially valuable. One might have thought

that, after all these years of low prices for cereals, there would have been a tendency to introduce some course of cropping that would reduce the aggregate proportion of white straw crops, but he (Mr. Tuckett) did not find that this was the case. No doubt this cause had resulted in the laying down of considerable areas to permanent pasture; but, so far as regards what was still cultivated, the tendency seemed to be to take as large a proportion of white straw as ever. For the practice of letting seeds stand for two, three or four or more years on certain light and poor soils, did not appear to be adopted where arable land is of good quality, and was rather to be regarded as an expedient adapted to cases where the land will barely pay for cultivating, and yet will not go down in permanent pasture. In such cases it might be the best means of reducing expenses and getting some sort of feed, in the absence of permanent grass. The disadvantage was that it made the land so foul. So long as one kept to clover seeds, one might hope to obtain clean seed; but directly a mixture of light seeds was resorted to, there was very great risk of sowing twitch grass and other weeds.

Coming to Mr. Morris's own recommendations, the chief one seemed to be that in the case of mixed farms, he would lay down a little more of tho ploughed land with permanent grass, and then adopt a five-course system, with one-fifth fallow crops, one-fifth clovers, &c., and three-fifths white straw corn. Mr. Shaw also mentioned that as being very common. This was, no doubt, a very old and very common way of managing ploughed land on mixed farms, throughout the Midlands and elsewhere. He (Mr. Tuckett) did not condemn it, provided the farming was very clean and rather high, but, as practised by the great bulk of second-rate farmers in the midland counties, two results might commonly be noticed.

In the first place, the fallows not being perfectly clean, the extra crop of corn seemed to give the twitch such an extra chance, that the following fallow only got it under to a certain extent, without exterminating it, the fallows became expensive without being completely effectual, and the last corn crop, half choked with twitch, was not a success. One-fourth fallow might cost no more than the one-fifth does, and two-fourths of good corn crops might produce as much as an indifferent three-fifths.

Secondly, the third crop of corn in each course required extra manure; and unless feeding stuffs were purchased, this generally came from the meadows—that is, the meadow hay went into the yards, and *all* the manure went into the ploughed land, and the meadows got gradually poorer. The great desideratum is that every crop attempted shall prove a good one. The attempting crops that never had a fair chance is an extravagance. But, after all, these mixed farms are not the real difficulty in these bad times. The great problem is how to farm a large arable farm with very little permanent grass.

Towards the end of his Paper Mr. Morris seemed a little hard on landlords. It was really out of date to suggest that tenants are prevented from cropping advantageously, by anything contained in agreements. Many years ago there might have been landlords who were foolish enough to worry a good tenant about some technicality in an agreement, but any such had since suffered terribly for their folly, and he had never heard of such a case of late years; and a tenant would now certainly feel very independent about such matters. Then, as to the recommendation to get rid of slovenly tenants as soon as possible—that was very good advice when it could be acted upon with safety; but it might happen that a landlord did not feel sure that he could replace a tenant who was paying his rent.

One statement in the Paper ought not to be accepted as a fair one, although it might be technically correct in some cases. If any land could be, or had been, bought to pay 4 to 4½ per cent. upon the rental, the statement should be regarded rather as the expression of a want of faith in the permanence and stability of such rental.

As to the labour question, the complaint was general, and, no doubt, dear and inferior labour meant low rents. But he had not at present heard that any adequate remedy had been discovered, though a special Paper on the subject was read last Session, and suggestions of one sort and another were numerous. It was commonly said that the young labourers migrate to the towns, and leave only the old men to work on the farms; and it was often added that these young men do not really better themselves. He (Mr. Tuckett) had some reason to believe that the last assertion was not generally true. There was some ground for thinking that the able-bodied country-bred young men, when they got to the towns, were found to be better men than the town-bred ones, and that the former got good places by displacing a portion of the town-bred population, so that the old town population, who were not so robust physically (and not the new comers), tended downwards, and replenished the residuum which, it was to be feared, was far too nearly on the verge of pauperism. If it really were the fact that the younger countrymen do well in the towns, the fact that the townspeople might suffer in consequence would not be sufficient to stop the movement, nor would any small measures about allotments and the like; and it became a very serious matter indeed for those interested in the prosperity of the country districts.

Mr. D. Watney (Fellow) said he had made an endeavour to ascertain exactly when the four-course system

became established, and had failed; he took it, however, that he would not be far wrong if he assumed it was the system obtaining in Norfolk at the time when Mr. Coke (afterwards Lord Leicester) was in his zenith at Holkham, about the end of the last century. The four-course system was, no doubt, formerly the prevailing system in Essex, as might be seen on reference to that old standard work, "Bayldon's Rents and Tillages"; although it must be remembered that at that time there was not such a variety of crops as at present, there being then very few roots grown. It had been held by previous speakers that there should be no hard-and-fast rule of cropping, and with that contention he entirely agreed, because on heavy clay lands, where one could not keep sheep in the winter, the method of farming was totally different from that on sheep lands, where there was a breeding season, and where it was necessary to have a supply of green food for the ewes and lambs. It would be impossible to adhere to any one system of cropping in every case, and the farmer must be guided by circumstances and seasons.

If an agent knew the incoming tenant, and was sure he was going to farm on the highest system of cultivation usual in his part of the country, and to keep the land in good condition, then he might let him crop as he pleased. Unfortunately, however, tenants might be classed as good, bad, and indifferent, and he was sorry to say there were a good many indifferent ones, and it was impossible for an agent to know what condition his farms would be in in a few years.

He had been frequently asked by incoming tenants to allow the first half-year's rent, the reason given being that the farm was out of condition. It was exceedingly difficult, nay, impossible, for any valuer, umpire, judge, or jury to assess, with any degree of accuracy, the difference between

land in good condition and good heart and that which was not so, and to take account of the degrees of badness or goodness through which the land goes in passing from one condition to the other. There were so many conditions to be considered that it would be almost impossible to lay down a graduated scale of pounds, shillings, and pence as applying to the various degrees of condition, but his own opinion was that every tenant should be bound to make a certain proportion of fallow ground every year. Let it be stipulated that a certain area of arable land shall be fallowed every year, either bare fallow or cropped with roots, the only other condition necessary being that the tenant should sow in proper course a certain proportion,—say one-eighth, of the arable land in clover. In that way a proper proportion of the land would, at Michaelmas, be left ready for wheat, and there would also be clover in the succeeding year. If there were a counterclaim for damages under the Agricultural Holdings Act, it would be easy then to make a definite claim; for, if there were not in these circumstances a proper proportion of fallow, the umpire would be bound to allow for it, and also for any deficiency in the area of land sown with clover.

With regard to land laid down with seeds for three or four years, he quite agreed that it was an economical way of farming. If the grass and clover seeds were let stand for three or four years, the labour bill was reduced both in respect of manual and horse labour to the extent of 25 per cent., a very considerable item in the present state of agricultural finances; but, if land was allowed to lie in that way for three or four years, the quantity of produce would also be reduced. Something had been said with regard to tenants laying down land to permanent pasture, but he, from his experience, was satisfied that no tenant, with a lease for seven years, could lay down land for permanent

pasture with any profit to himself unless he got considerable assistance from his landlord.

As to the labour question, he was of opinion that the migration of the younger labourers into towns and the manufacturing districts was due partly to the higher education given in the Board Schools and partly to economic causes which could not be controlled either by the introduction of small holdings or by any Act of Parliament. The old law of supply and demand still held good, and there must necessarily be a greater demand for labour just now in the towns and manufacturing districts than there was in the country.

He regretted to find it stated in Mr. Morris's Paper—and he was glad to find that Mr. Wright had also noticed the point—that landlords had neglected their property, and that they had a want of confidence in land which had created a slovenliness in the management of their estates, and it was argued that if the landlords wished to improve such a state of things they must show more confidence, and assist all enterprising men by more liberal agreements. As far as his (Mr. Watney's) experience went, that was a libel upon the landlords, who, he thought, had, with few exceptions, met their tenants in a most generous and liberal spirit, and he would say, without fear of contradiction, that if it had not been for these landlords the position of the tenants of this country would have been very much worse at the present time.

Mr. G. Beken (Fellow) said that, as far as his experience of farming went, the main principle to be followed was, as far as possible, to avoid two white crops following each other. On a farm with which he had had to deal, a mixed farm in the Weald of Kent, he came to the conclusion that some of the poorest fields had better be laid down, even if

they only yielded keep for a few geese. He had found that very often farmers had got into such a routine that they did not consider what was suitable for individual fields. In his own experience he had seen great advantage result from laying a field down, for in a few years a good many sheep could be kept upon it, especially with the assistance of a little top-dressing. As to top-dressing, if the soil was clayey, then lime and mould was very beneficial; and where there was very poor land a long way from a town, and where no town manure was obtainable, it was better to lay it down. Much had been said about labour in the country, and it had often struck him that the introduction of machinery, especially threshing machines, was partly the cause of the difficulty in that respect. When he was a boy they used to keep two or three men on the farm all winter threshing, but now all such occupation was taken away.

Much had been said also about the increased cost of managing farms, in spite of the introduction of an immense amount of machinery in the last 30 or 40 years, which it was thought would economise labour, but he was not at all sure that this had been the result. According to his own experience, except for threshing, machinery was of the most use for breaking up after tares, peas or beans, or similar crops. If he were to carry out farming according to his own ideas, he would, with all deference to Mr. Watney, avoid clear fallows as far as possible. He would break up by steam and half-fallow, notwithstanding that in a wet summer the result might be disappointing, but that was more or less the case in a wet season even with a clear fallow.

Compared with the system prevailing in his own county, it seemed to him that the four-course system was a monotonous one; but he must own that the farmers in the Weald of Kent did not readily adapt themselves to altered circumstances.

They did pretty well as they liked as to rotation. They had very few turnips, and scarcely ever thought of sowing barley or rye, the land being unsuitable for any of these crops. They had, of course, hops, which took up a great deal of the farmyard manure that in other districts would go to turnips. He had found the greatest difficulty in getting sufficient alternation with white crops, and he was of opinion that if sainfoin or trifolium could be successfully adopted it would be very beneficial to bring it into change with other crops. The rotation which he himself had followed, with the concurrence of experienced farmers, was wheat, seeds, ley, beans, wheat, oats, and then, perhaps, vetches or peas or seeds for early feed in spring, such as trifolium, which was found to answer the purpose as well as anything; then the field was broken up and made a half-fallow. If it were broken up early and the weather were favourable, a good fallow could be made.

Mr. T. A. Dickson (Fellow) said those present would think he was going rather wide of the subject of the "four-course system with desirable variations" in his remarks, but Mr. Morris, on page 131 of his Paper, had said that one ought to find out which is the system that pays best at the present day, and whether any definite system was better than a variable one; and Mr. Buck, also, speaking of agreements, had said that no agent or landlord would find any fault with a tenant who had carried out the best system, his definition of the best system being "the one which yielded the best "return at the very least cost." He (Mr. Dickson) was, accordingly, rather surprised that at that Meeting of The Surveyors' Institution no allusion had been made to the discoveries which had been explained in some detail in a now celebrated article in the Royal Agricultural Society's "Journal," with respect to the power that certain plants, known

as the *leguminosæ*, had of obtaining nitrogen from the air. All knew how very expensive nitrogenous manures were, and what an important item they formed in the annual expenditure of the farm. In the article by LAWES and GILBERT to which he referred, it was shown very clearly, in the first place, by reference to some experiments carried out in Germany on the order of plants known as *gramineæ*, which included all the different grasses and cereals, and also on the orders comprising the several root crops, that none of those crops had of themselves the power to assimilate nitrogen from the air, but that they all seemed to be benefited by the application of nitrogenous manures. Experiments which had been carried on in Germany, and also more recently at Rothamsted, had, on the other hand, shown most conclusively that the order of plants known as *leguminosæ* (comprising clovers, beans, vetches, peas, &c.) had the power of assimilating nitrogen from the atmosphere. It was well known that there was no better preparation for wheat (if it could be grown) than a good crop of clover, or, on another class of land, a good crop of beans. The experiments to which he referred, carried out by Sir JOHN LAWES and Dr. GILBERT, showed in a measure how it was that a good crop of clover or beans was such an exceedingly good preparation for a crop of wheat. Any course of cropping that would do away with the expensive item of nitrogenous manures, and which would enable the farmer to get nitrogen direct from the air without paying for it, would be most beneficial. Not only had experiments been made with this view in Germany and at Rothamsted, but the idea had also been carried into practical effect elsewhere in Germany and in England. In Germany, on some light and sandy soil, leguminous crops had been grown for a considerable number of years, with the aid of kainit and phosphatic manures. These leguminous crops had been grown for the express purpose of enriching the

land with nitrogen from the air, without the necessity of applying nitrogen in the form of manure, and growing swedes, &c., afterwards.

When it was remembered that potash in kainit and phosphoric acid in phosphatic manures could be bought at about 2*d.* a pound, while nitrogen in nitrogenous manures could not be purchased for less than 6*d.* a pound, the importance of this point would be appreciated by everyone. That custom had been carried out in Germany very successfully for some years, and, coming nearer home, Mr. Mason, at Eynsham Hall, in Oxfordshire, was devoting some 200 acres of his farm in order that he might give a good trial to this system of obtaining nitrogen direct from the air, and reports on the plan of his operations had been published in some detail. At Eynsham there was a four-course system, but one quite different from any that had been mentioned that evening. The first year was beans and red clover sown with the beans, the beans and clover being cut green and made into silage; the next year the red clover was made into hay and the stubble ploughed up; in the third year the crops were potatoes and mangel-wurzel; and in the last year, oats and wheat. To the oats and wheat no manure of any kind was applied, Mr. Mason trusting in a great measure to the large amount of nitrogen, estimated at 160 lbs. an acre, which the beans and clover had extracted from the air, and which had been stored up in the roots he left in the soil. To the other crops, with the exception of a little to the roots, there was no nitrogen applied at all, but only kainit and basic slag. Mr. Clare Sewell Read had described the farm which he had known for more than forty years, as being of as beggarly a nature as could be found. But now, though all the crops were not of maximum growth, they were yet paying and fair crops. It was, of course, difficult to say whether the system pursued would be a

success, seeing that Mr. Mason had only been trying it for a comparatively short time; but he (Mr. Dickson) thought that the discovery of this power of leguminous plants to obtain nitrogen from the air was well worthy of consideration, and on that account alone he would say that in any future rotation leguminous crops must hold a most important place.

The President, in summing up the discussion, said that Mr. Morris, the writer of the Paper, was, unfortunately, not able to attend the Meeting; but he would carefully read over the remarks that had been made, and reply in the "Professional Note." A hundred years ago, when the four-course system was first adopted, very little defined method prevailed at all. The four-course system went on very well while wheat remained at a good price; but now that so much arable land had been laid down, and milk had become one of the most profitable products of a farm, and in view of the number of new plants which had been introduced during the century, the four-course system was undoubtedly, in many cases, to a certain extent obsolete. He agreed with Mr. Watney that a tenant should be restricted as little as possible, and that in any one year there should be a certain proportion of fallow and a certain quantity of seeds; but he (The President) would himself go further and stipulate that he should not sell wheat-straw or hay without written permission.

The Meeting then adjourned.

Paper 183.
No. 305.

AN EXPLANATION OF THE LONDON WATER QUESTION.

By J. W. GROVER (Associate).

Read at the Ordinary General Meeting of The Surveyors' Institution, *Monday, February 15th*, 1892.

ROBERT COLLIER DRIVER (President) IN THE CHAIR.

Preliminary Remarks.

When, in 1879, Lord Beaconsfield's Government decided to grapple with the question of the London Water Supply, it was to a surveyor they resorted for advice and assistance in negotiating the arrangements for the purchase of the various companies' undertakings. That surveyor (Mr. Edmund James Smith) was, as I need hardly remind anyone here, a distinguished Past-President of this important Institution, and a leading authority on those points of business which form the practical basis of every description of public enterprise, and on which the question before us this evening ultimately rests.

I need, therefore, no further excuse for bringing the subject of the London Water Question before a body so eminently qualified as The Surveyors' Institution to consider it from other than the strictly scientific and engineering aspects.

Hitherto, the consideration of the question has been left to experts, and the general public has been shut out; the

time is now come when, if anything is to be done, it must be by the people's representatives, as it is the public money which will have to be invested.

No doubt the subject is very vast and very difficult; but I think it can be divested of a good many of its technical encumbrances. Indeed, if precise accuracy is not insisted upon, the facts and figures are fairly simple, and can be carried in the mind of any ordinary reader. The conclusions to which I have arrived are not based upon other people's opinions: they are the result of my own practical experience during the last twenty years of actual work in the great London basin, and, so far as I know, this experience has not in this particular district been exceeded by anyone.

It is now universally admitted that sanitary matters should be in the hands of the public authorities: that which directly affects health is too serious a thing to be left to dividend-seeking bodies.

This axiom is accepted everywhere, and, indeed, has been for many generations; the question then occurs—Why, then, do the eight great London water companies exist? Whence had they their origin, if they do the work which the public bodies should have done? Why, indeed, all over the country, do we see Acts of Parliament granted for incorporating private companies to supply towns and parishes which ought to supply themselves under the Public Health Act?

The answer is this—Because the water supply of London and all these other towns in the first instance involved great risk, and generally heavy loss; hence, the towns, London included, did wisely in their ratepaying interest to shift that risk on to somebody else's shoulders.

For many generations the New River Company, whose shares now stand at such fabulous prices, was a dead loss to its unfortunate shareholders, the King included; indeed, at

one time a payment was demanded for relieving a holder of stock from his liability.

The same thing can be said, in a lesser degree, of all the other London water companies. They were, most of them, sad financial failures for many years; those who actually ran the risk and found the money for these great and useful works were in their coffins before a dividend was declared.

Yet those unfortunate people did the work for London, and relieved it of the chance of risk and loss, at that time.

I mention all this to show that these great companies, instead of being the oppressive monopolists that they are represented to be, really were and are the benefactors of our towns, and, now that the time has properly come to buy them out, they should be treated justly.

These are the arguments which will, no doubt, be used by the water companies in making their claim. I think it only fair to the buyers to state what appears to me to be their case.

To begin with, the companies have, I believe, no monopoly; they have only a permission. Anybody can dig a well and supply himself and his neighbour. Many are doing so in the water companies' districts, with no very successful results, it is true.

Again, there is no question that the water of the Rivers Thames and Lea were public property. The Companies have been allowed to abstract daily a vast volume of this public water, at a nominal charge, and on the faith of that grant they raised much capital.

This abstracted water they sell at a profit which makes their shares stand at a premium.

No doubt the companies have proper means of showing that they got authority from the Thames Conservancy, or Parliament, to take this water out of the river and sell it for a profit; but it is only reasonable for the public, in

buying up these prosperous concerns, to remember that it is a public grant which has created their prosperity.

We have seen, in the case of railways during the last 10 years, that Parliament has required that the charges on those railways should be materially revised, for the public good.

This seems to me very arbitrary, because the shareholders who made the lines did so on the faith of the Acts which defined the tolls they might levy. Hence, it is justly argued they should not have the bargain upset when they have spent their money. The answer is, "Salus populi suprema lex." I do not for one moment defend the disturbance of a bargain once made. I think that it was unfair to revise one in the case of railways, and it would be equally so in the case of the water companies.

Again, in comparing the present value of the water companies with Mr. E. J. Smith's price for them in 1880, it must not be forgotten that Mr. Dobbs' decision as to the meaning of rateable value has depreciated the price.

It may be argued, of course, that the present water companies' shareholders are not those who did the works, yet it seems to me they are their successors in title and their representatives so far, and just as much entitled to the enjoyment of their present prosperity, in view of their predecessors' risks and losses, as any English earl is now rightly in enjoyment of his ancestral park, which was granted to his ancestor for fighting on the winning side at Bosworth. Indeed, I think many will say that the water shareholder is even more deserving of protection.

It is very difficult to say where London begins and where it ends, and to bring correct figures up to date is not easy; but, for the purpose of illustration, and to be well within the present mark, I will first of all take the figures given by the late Sir Joseph Bazalgette.

The Financial View.

In 1884 Sir Joseph Bazalgette describes London as containing 4 millions of people, and having a rateable value of 28 millions a year, or at the rate of £7 a head. All these are below the present figures; so, we are quite safe in dealing with them by way of illustration. It appears from the same authority that the water then cost each person 7*s.* a year, on an average; this, on £7 a head, comes to exactly 5 per cent., and is easily borne in mind. The number of houses being taken at half a million, he gives an average of eight persons to each house. He says:—"A purer and more "copious supply of water, on constant supply and at high "pressure, is demanded, and, whether this is to be attained "by purchase or by some regulation of the present water "companies' powers, it is obvious that each year's delay "will only increase the cost and the difficulties involved."

The reason of this is because the companies charge on the rateable value of property, and not by the quantity of water consumed. Between the years 1855 and 1884 (*i.e.* 29 years), the rateable value of houses had risen from £4 per head to £7 per head of the population; so, notwithstanding the consumption of water per head remained practically the same, it appeared that a man paid 7*s.* for the same quantity of water in 1884 for which he paid 4*s.* in 1855. What is worse is that this charge goes on increasing with every revaluation of the Metropolis. Hence, something should be done at once before other valuations are made of the Metropolis, otherwise the ultimate purchase of the water companies' rights will saddle the unfortunate ratepayer with an enormous load of obligations, beyond that which he would now have to face.

The figures are somewhat startling; say, on one million a year increase on the rateable value of London—no very

excessive amount,—the companies could charge all round about 5 per cent., or £50,000 more for the same amount of water which they are now giving, and with small extra expense or outlay.

Now, if they have to be bought up, they will probably ask over 30 years' purchase, and this on £50,000 a year means $1\frac{1}{2}$ millions, a claim which it will be the more difficult to resist if there is much more delay. Besides this there will be the sinking fund for amortisation; but this amount is sufficient in itself to startle the ratepayer, and to show that something must be done at once if this tremendous obligation is not to be incurred. But will it not involve the ratepayer in a very serious loss to buy up the London water companies now? I think not. One great difficulty is that the companies extend far beyond London, and there is no means of apportioning their revenues; the other great difficulty lies in the valuation of the New River Company's king's and adventurers' shares, the absence of details of that company's revenue from its landed property, which is known to be very great. However, in round figures the following may generally be taken as a fair statement of the case. The capital of the eight great water companies supplying London is above $14\frac{1}{2}$ millions at par; its present market value may be taken, according to Mr. Wood's evidence, at $33\frac{1}{2}$ millions—that is, ordinary capital $27\frac{3}{4}$ millions, and preference and loans $5\frac{3}{4}$ millions. The gross revenue is very difficult to get at, as I have said, owing to the land income of the New River Company being an unknown quantity; and also to the increasing value of land from leases falling in, which is supposed to be very great. According to Messrs. Matthieson's computation (in the *Financial News*), the gross revenue is computed to be, with the New River property, £1,892,000, and the nett revenue £1,217,000. These figures appear to be based on a report

made to the House of Commons in December 1889 and an advertisement which appeared, stating that the revenue of the New River Company was, for land and water, in 1889 no less than £515,461. I have no means of checking these figures, nor does it appear that anybody has; but from the report of the City Water Inquiry, p. 9,

The assumed nett profit of the companies available for dividend (*i.e.*, after providing for interest on the preference and loan capitals) amounted, according to Mr. STONEHAM (p. 102), to - -	£939,806
But Mr. STONEHAM, in his report to the Local Government Board, gives the interest of preference and loan capitals at - - - - -	£182,064
So that the nett income is - - -	£1,121,870

according to this authority, and, as he is the official auditor, his figures, as far as they go, may be accepted; but as he only puts down the rents of the New River Company at £9,563 a year, there is evidently a very large sum to come on for the New River Estate, and so, probably, the first calculation is not so far from the mark, though high. For the purposes of illustration, I will deal with both estimates.

1st.—£1,217,000 per annum, probable nett revenue (with New River Estate).

2nd.—£1,121,870 (with only £9,563 allowed for New River rents).

Whether market price is a fair price or not must be decided by the proper arbitrator. I offer no opinion, but for the purposes of illustration only, suppose the lot to be bought up at their actual market value of, say, 33½ millions, it is quite certain that the London Water Trust or the

County Council could raise money at 3 per cent.; it is even said that they could do so at £2 14*s.* 3½*d.* per cent.—that is, at 2½ per cent. for a loan issued at 91¾. However, for our purpose, it is sufficient to take the worst case, viz., 3 per cent.; this will involve a yearly interest of just over, say, one million (£1,003,335).

This, taken from the estimated revenue of £1,217,000, leaves £213,665 balance for a sinking fund, and here comes the important question. To pay off a million pounds loan at the end of 60 years, which is the time required by Parliament, the sum of £6,100 a year must be set aside and allowed to accumulate at 3 per cent. compound interest. But, if Parliament would say that the loan need not be paid off till the end of 90 years, we find that only the sum of £2,200 a year need be set aside at the same 3 per cent. compound interest.

Now, let us take the 60 years first of all, and see how the figures stand to pay off. The 33½ millions at the rate of £6,100 a year per million will take £204,350 a year; this, added to the interest of £1,003,335, makes £1,207,685, or just a little under one million and a quarter per annum, which is, according to our first authority, practically the present earning of the companies; so that there would be actually no loss in this worst case.

But, suppose we take the best case, and assume that the loan is to be paid off in 90 years, what happens? This is the result. Only £2,200 a year is needed at 3 per cent. compound interest for each million; so that for 33½ millions only £73,700 a year sinking fund is needed. Add the interest, £1,003,335, and we have a total of £1,077,035 total yearly outlay against an estimated revenue of nearly 1¼ millions a year, or, more correctly, £1,217,000, or a profit of £139,965 a year. In the case of the Sheffield Water Bill, the period of payment was extended to 90 years;

and it is difficult to see how it could reasonably be refused in the case of London. Everything should be done to protect future generations from the possibility of having to pay the enormous water charges which will come upon them if the companies are not bought up now. At the end of 60 years the profits to the ratepayer would be so large from the water trust that he would not notice so paltry an annual payment for sinking fund; but if anyone will work out what the Londoner will have to pay at the end of 60 years, if the present companies are allowed to remain, he will be astonished.

2nd. Let us now take the second or lowest estimate of nett revenue, which practically excludes the New River Estate, and is therefore, we know, a long way under the mark, viz. :—

	£1,121,870
Deduct interest as before at 3 per cent.	1,003,335
	£118,535 balance,

available for sinking fund, which would give a deficit if that fund be £204,350 to repay loan in 60 years, but a surplus if that loan be repaid in 90 years, when it would be only £73,700 a year, as I contend it should be. Even in the worst of these two cases the deficit would disappear if the water rentals grow as they have grown. It must, however, be borne in mind that, when the London water companies are represented by a single authority, the expenses and working should be greatly reduced. Certainly, the office staff, directors' fees, and secretarial charges would be considerably less; and all expenses connected with shareholders' meetings, dividend payments, and raising capital would disappear after a time. The engineering charges would be less, and the convenience of being able

to supply the town, irrespective of legal districts, by the most accessible pipes, would be enormous. What it would be it is difficult to say, but some idea may be formed by analogy in the case of the two great gas companies which supply London, which have been formed by the annexation, from time to time, of minor companies, each step in the direction of unity having resulted in reduction in the price of gas, consequent on reduction of cost of distribution and management.

In the case of the eight water companies I do not think that the saving effected by unification could be much less than £50,000 a year, and it might be much more; a good deal would, of course, depend on the constitution of the London Water Trust and its capacity.

It is well known that the financial results achieved by the authorities of Birmingham, in dealing with the water supply in their own hands, have been most satisfactory. The committee of the Corporation of London on the recent "Water Inquiry" visited Glasgow and Manchester, and say in their report:—

"In each of these cities the officials examined gave "evidence showing the advantages and conveniences that "had accrued to the consumers and to the cities themselves "from the supply being in the hands of a public authority"; and they further say, speaking of London, and it is the most important remark in their report,—"The quinquennial "assessment makes it imperatively necessary that some "solution of the question should be arrived at in the next "Session of Parliament."

Before passing away from the financial question, I should say one word about a most popular error—that the domestic supply of water would be better if provided by meter, as in the case of gas. All who have practically to do with meters will state that no water meter exists which has been found

satisfactory for domestic use. Only expensive meters are to be relied on for registering small quantities of water; and if all London had to be supplied on the meter system, some three or four millions of additional capital would be required for meters, and there would be an enormous expense for meter inspectors and repairs.

But there is another most formidable objection, which is that a meter would make the charge for water the same to all classes, which, on sanitary grounds, would be most objectionable, for it would induce the poor to unduly restrict their consumption. As matters now stand, a man living in a £100 house pays just twice as much as a man living in a £50 house, although, perhaps, he uses no more water. Although this may appear wrong on the face of it, the system works well in practice, for the rich really pay for water for the poor. Hence, for domestic purposes, the rateable-value assessment is the only one practicable for water supply.

In the case of my own companies in the suburbs, our charge to a cottager comes to as low as 2*d.* a week, or 8*s.* 8*d.* per annum: in some cases, perhaps, the family consists of eight persons, so that the water company is giving each member of the family a high-service constant spring-water supply for the astonishingly small charge of 13*d.* a year. This is manifestly an enormous boon to the cottager; but the company not only gains nothing by it, but must have a loss on the transaction. What enables it to be done at all is that for a gentleman's house containing, perhaps, only 10 people, a charge of £10 a year can be made, or at the rate of £1 per head per annum. This helps to pay for the cottager, and is a very merciful arrangement, although it seems absurd that a man should pay 18½ times more for the same quantity of the same water than his next-door neighbour pays.

The Water Supply now.

We must now come to the consideration of the water itself as supplied by the eight great London companies. Of these the Kent Company derives its supply wholly from the deep chalk springs from wells, and a good deal of the New River and East London water has the same origin, and cannot be improved upon.

All the other supplies are from the Thames and the Lea; and these it is that deserve special consideration.

Taking the figures generally from the water examiner's report for 1889-90 to the Local Government Board, we find the population actually supplied averaged 5,581,491, or over $5\frac{1}{2}$ millions, inhabiting 753,555, or $\frac{3}{4}$ of a million, houses; no less than 1,126,631 persons and 167,135 houses were extra-metropolitan; but they are all included in the work the companies have to do, and in the capital they have spent. Now, it appears that 40 years ago the supply from waterworks to London was about 44 million gallons a day; now it has reached the enormous total of 167 million gallons a day on an average, and during July 1889 was as much as 186 million gallons per day.

Of the 167 million gallons supply a day, we find that the Thames is responsible for over

One-half	- - or	85 million gallons.
The Lea nearly one-third	or	$58\frac{1}{4}$,,
Springs and wells one-seventh	or	$23\frac{3}{4}$,,

Of the maximum daily demand of 186 million gallons we find

The Thames gives	98	million gallons,
The Lea ,,	59	,,
Springs & wells ,,	29	,,

Each year consumers increase at the enormous rate of 130,000 persons, and the nett water-rentals by £36,722.

The average number of persons supplied in each house is nearly $7\frac{1}{2}$.

The springs and wells are wholly situated in the valley of the Lea in the chalk, and in Kent. These, no doubt, could be still further developed by new deep wells; but, practically, the chalk cannot yield much more than it now does in that direction. The unfortunate River Lea seems sometimes to have its entire flowing water abstracted in summer by the water company; so that, below the intake, it is only a canal or stagnant ditch, of which much complaint is made.

It is obvious, therefore, that there is little hope of obtaining further supplies from that quarter, or, indeed, in the East of London at all.

Looking west, we have, close by, the great basin of the Thames itself, and this is the true source of supply for future, as well as present, London. The area drained by the Thames above Hampton is 3,465 square miles. The daily average discharge at Teddington is 1,100 million gallons.

The dry-weather flow is rarely below 300 million gallons.

But on exceptional dry days, such as the 19th September, 1889, we find the flow at Teddington weir as low as 280 million gallons. Now, as the companies were drawing their 93 million gallons, the astonishing amount of one-fourth the entire flowing volume of the river was abstracted.

It appears that the companies are allowed by the Thames Conservators to draw up to 130 million gallons a day; as a fact, they do not draw at most more than 100 million gallons, so they have a reserve of 30 million gallons a day to draw from; but it is exceedingly doubtful if they will ever be permitted to take this serious quantity from the river at the time of its greatest depletion.

The time of a Parliamentary committee in the Session before last was occupied by an exhaustive inquiry into the state of the Thames at Richmond. This inquiry had the effect of showing that the river, even now in summer, is reduced to a seriously low volume, and remedies were admitted to be imperatively necessary. The evidence of Sir Robert Rawlinson, quoted in the Water Inquiry Report of the Corporation, is to the purpose, as follows:—

"Have you considered the question of other sources of "water to be obtained as an alternative supply?"

"I say there is in the Thames area a sufficient volume "of water, and I do not go any further."

Also, "The area of the valley of the Thames above" "the intake of the Waterworks Companies, available for" "water supply, may be taken as 1½ million acres, and" "any one thousand acres should yield one million gallons" "of water a day."

"It is not, however, pretended that under existing "conditions any such volume of water as that from the "entire area can be made available *without wells and head-* "*ings*, but it does indicate that in the valley there is an "abundance of water *outside the open rivers*."*

We have therefore the proof in the Richmond Inquiry that the Thames is in the summer overdrawn upon and reduced below its proper stream, and in Sir Robert Rawlinson's evidence we see the remedy. The Thames basin is the source of fresh supplies, and not the River Thames, or, consequently, its tributaries; the chalk itself is the reservoir, and forms the base of the Thames basin. It is from that source that the purest and best waters come, like that supplied by the Kent Company on the S.E. side of London. Dr. Frankland, the official analyst, shows in the

* The italics are mine; and they mark the true source of future supplies for London.

report to the Local Government Board (p. 257), in a table, that not only is the deep-well water purer and freer from organic matter than either the New River or the Thames supplies, and that by a very great degree, but he makes the following very important remark :—

" A comparison of these figures with those referring to " the Thames and the Lea does not, however, adequately " represent the superiority, from a sanitary point of view, " of the deep-well water ; for it must be borne in mind that " the exhaustive filtration which the deep-well water under- " goes in passing through a great depth of porous strata is " far in excess of what can be effected by the same filtration, " highly valuable as it is, to which the river waters are " subjected."

He shows that a still more important feature (p. 254) is the temperature at which the waters are delivered. Diarrhœa has been proved to follow the raising of the temperature of water, and in winter it is desirable that it should not be delivered at nearly freezing point.

Dr. FRANKLAND'S figures are so valuable that I quote them.

The Thames river water ranged from -	70°	Fah.
in July to - - - - -	38°	„
in December.		
The Lea supply, partly from river and partly		
from wells, ranged from, in July, -	69°	„
to, in December - - - -	39°	„
But the deep-well water from the Kent		
Company's chalk wells ranged only from,		
in July - - - - - -	55°	„
to, in February, - - - -	51°	„

He says :—" The great uniformity in temperature of deep- " well water is of considerable importance, as the water " remains cool and refreshing in summer, and is less likely

"to become frozen in winter; whilst river water at 70°, or "even 65°, Fah., is vapid and unpalatable, and at 39° it is "soon cooled to freezing point."

It is no wonder that the Rivers Pollution Commissioners said of this water:—

"The supply of it to the Metropolis would be a priceless "boon."

At the same time it must be quite understood that it can only be brought in as a supplemental supply; and for the supply of the London future population, for better or for worse, the existing sources must be maintained. Anybody who advocates superseding what exists cannot be aware of the cost of what has been done, and what it would take to undo it. At the present rate of increase, by the year 1901 Greater London will probably contain nearly 7 million persons, so that it will need 45 million gallons a day more than it now takes.

The Supplemental Water Supply.

It is this extra 45 million gallons we have now to consider—not what already exists.

People talk about the Lake of Bala, and other absurd distant services, not remembering that the Welsh hills and the Lake of Bala have quite enough to do to supply their own rivers, the Severn, the Dee, and the Wye; and that the inhabitants on those rivers, and the great towns much nearer to them, will not allow running water which belongs to them, to be taken away without compensation, even if it could be done at all.

As a principle it may be laid down that running streams cannot be interfered with without compensating the district to which they belong.

The Thames, as we have seen, is drawn upon for 100

million gallons a day. The companies have obtained permission from the Thames Conservancy (who granted it, I believe, with great reluctance, and under compulsion) to draw 30 million gallons more a day. After the late Richmond evidence they will scarcely, however, venture to exercise their right. They, or the new London Water Trust, must at once set about finding a new and proper source, limiting the companies to their present 100, or at most 110, million gallons a day. The source is, as shown by Sir Robert Rawlinson, to be the chalk of the Thames basin.

At this point it will be necessary to explain as briefly as possible the features of the London geology, avoiding all technical details, and giving the general facts of the case only.

London stands on a great bed of tertiary clay through which no water can pass, but which rests upon the Woolwich sands and Reading beds, which overlie a vast bed of chalk, through which water can and does pass. Hence, if anybody in London makes a well through the London clay on which he stands, and deep enough to get to the Woolwich and Reading sands, he will, when he reaches them and the chalk, find water; and this water will rise up the well a considerable height.

Of course, if all the sand beds and the chalk were covered with this water-tight London clay, no rain-water could get to them; but, fortunately, there are extensive districts to the west, south, and north of London where the chalk comes to the surface; that is to say, crops out from the tertiary beds and London clays and forms hills, upon which the rain falls and into which it sinks.

When once the rain has sunk deep into the chalk it cannot escape, but travels under great pressure underground along cracks in the rock, and especially along the layers of the flint beds; in this way it continues to travel in the sand

and chalk, even where these formations are covered with water-tight clay, until it gets to the sea or the tidal parts of the estuary of the Thames below Teddington; because that is the lowest place it can get to.

Hence, we see that much of the rain which sinks into the bare chalk hills north-west and south-west of London is lost to London, for it travels away in a thin film of great extent beneath it, and escapes into the sea below it.

This is the water that London should retain and use. It is vast in volume, pure in quality, and uniform in temperature; it now benefits nobody.

But then it will immediately occur to the Londoner, Why should not I get this water myself, here on the spot, by sinking my own wells?

So you do. Every well sunk in London proves the fact that, after going two or three hundred feet and passing through the tertiary clays, the Reading and Thanet sands and the chalk are come to, and in these the water is found; but, unfortuuately, no London well is successful in giving much water, because the pressure of the clay upon the sands and chalk has so compressed their particles and fissures that they will not pass water freely, the water being spread in a thin film under the weight.

It is only in certain places, and that where the pressure is least, that the water will pass in the sand and chalk and chalk-flints freely.

It follows from this that, if the chalk is full of water, and yet that water will not flow freely in it when it is compressed by a weight of clay resting upon it, we must follow the clay to the line where the chalk crops out or comes above it, and there ought to be the place to sink, and to find abundant water in the chalk; and so it is.

All around London on three sides, away from the sea, we have this providentially-arranged narrow belt of land,

representing the line where the chalk outcrops from the tertiary sand and clay.

In this aqueous belt we find the presence of wonderful, clear, brilliant chalk springs. Some are perennial, some are intermittent, and form what are called bournes, but they all show that nature is following one of her great laws; and by watching the actions of nature herself the engineer is guided to the spot where he may sink his well.

The New River Company's great spring at Amwell is one of these sources in the Lea Valley; that valley is practically yielding its utmost, and nothing more can be developed there.

It will, however, occur to everyone that, if the springs are now breaking out at the line of the chalk outcrop, and feeding the rivers there, that, if those springs are tapped, the rivers will themselves be affected by the loss of the spring water. The answer is, suppose they are, it is manifestly better that the water should be taken from the spring itself, as it comes up pure from the chalk rock, than after it has become polluted by entering the river and mixing with its muddy contents.

But, as a fact, from practical well-sinking in the chalk, it is found that the water is contained in layers or seams of flints, which are more or less horizontal, and which are separated from one another by thick floors of hard rock-chalk. So that, as we bore down and pierce these floors, we release fresh supplies of water in the flint beds we come to. We find that, as we go down deeper, the water in the well rises higher and higher; it stands at a different level from the river water, and hence we see has no connection with it, for if it had it would stand at the same level.

Now, sometimes it appears that the underground spring water in the chalk, which lies a few feet (about 15 to 20 feet) below the surface, does force its way upwards, and

come to the surface in springs and supply the river. But after that, as we go down, we get into another water world quite shut out from the surface, and which, as I have said, benefits nobody, but travels slowly under the London clay into the sea or tidal river. Hence, it follows that all that is needed to protect the rivers (assuming that it is necessary to protect them at all) is to shut out the upper springs, by lining the well down to a depth of 25 to 30 feet by brick-work or iron cylinder, up which the deep-spring water will rise from the bottom.

Now, to bring all this into a practical shape.

There are two districts immediately to the south-west and north-west of London, which can give it a large and immediate supplemental supply of spring water. The first is the Leatherhead or Mole district, at the base of the Box Chalk Hill Ranges; and the other is the Rickmansworth or Colne district, at the base of the great Chalk Chiltern Range.

Both these districts have been assigned to water companies under Parliamentary authority; and, in view of the coming wants of London, permission has been granted to them to deal with the surplus water.

So that, practically, during the last ten years, in the three Acts of Parliament which incorporate these companies, the supplemental supply for coming London has been legislated for. It is only fair to the London water companies to say that some of their leading men have recognised these future sources of supply, and have in two cases, assisted in developing the sites and the springs. At Leatherhead, close to the railway station, one of the most remarkable chalk springs can be seen in proof of the abundance of water in the chalk. The Mole Basin at the back of this site cannot be taken at less than 100 square miles, and, after making all allowances, and from the

evidence of the existing springs, it is probable that from 5 to 10 million gallons a day could be obtained at once in the district of the Leatherhead Water Company, and possibly much more. It could be easily connected with the Lambeth Company's works at Surbiton, and supplement the Thames supply by water of uniform temperature, sparkling purity, and freedom from all pollution. The Chiltern Hills' source, in the Colne district to the north-west, is, however, a much more important one.

At Rickmansworth are found the most remarkable chalk springs near London. It was from this place that, about the year 1641, a Bill was brought into Parliament for the supply of water to West London; and it is recorded that the King took great interest in the project. Unfortunately, the Civil War which followed proved fatal to the scheme. During the next 150 years the project seems to have been revived at various times, but was generally opposed by the millowners; however, at last the Grand Junction Canal and Water Company was authorised, and it was proposed to supply Paddington from the canal. The two schemes did not, however, concur; so the Canal Company got quit of the water supply obligation, and the Thames at Kew was used for the intake of the water supply. The site of the pumping station of the Rickmansworth and Uxbridge Valley Water Company is very remarkable, and is worth special attention, as it is this company's district from which the great immediate supplemental supply of London must be taken, under the powers of the Act of Parliament. The Chalk Hills narrow the valley of the Colne, and compel the water of the river itself, and consequently the subterranean spring waters also, to pass through a very narrow defile of what may be termed the "neck of the bottle."

The "bottle" is the great collecting basin of those valleys in the chalk hills in Herts which contribute to and

supply the Colne River, which is the neck of the "bottle;" they are the Ver, the Gade, the Bulbourne, and the Chess. The whole of these concentrate their waters and pass through the narrow Rickmansworth Valley, under the joint name of the Colne. But the surface river is only a small proportion of the flowing water; its overflow, in fact. That which is passing away through the same valley underground, and invisible in the gravels and fissures of the chalk, is enormously in excess of the surplus above which makes the streams, and so great is this volume of underground spring water, that it can be seen forcing its way up through the rivers.

It was from one of these sources, viz., the valley of the Ver, that, in the year 1827-34, the eminent engineer TELFORD recommended that a supply should be taken for London.

In 1840 the great engineer ROBERT STEPHENSON projected his scheme at Watford for the London and Westminster Water Company.

He calculated that the basin in the chalk hills above him, although partly covered with some thin clay in places, really represented 113 square miles of gathering ground.

But STEPHENSON, had he looked a little further down the valley at Rickmansworth, would have found a still better site. He would have found that, instead of 113 square miles, he had a basin of no less than 234 square miles to gather from by the addition of the Bulbourne, the Gade, and the Chess.

But both TELFORD and STEPHENSON were premature; so their schemes were, unfortunately, not carried out at the time.

It will now be asked what quantity of spring water can be got here. To answer this, it is necessary to remember how much falls, in rain, in the basin.

Twenty-six inches of rain a year, over 234 square miles

of country, represents a flow, at the neck of the bottle, of 243 million gallons a day.

It is true the chalk is not all absolutely bare. It is covered with some patches of clays and gravels; but it is practically bare, because these patches are thin and have holes in them and run along slopes, down which the water flows to the chalk.

Now Stephenson assumed that one-third of the falling rain found its way into the subterranean springs. This would be about 80 million gallons a day. A higher authority, Dr. Evans, F.R.S., does not allow so much by half. This would bring it down to 40 million gallons a day; that is, one-sixth of the 28 inches of rain falling, or under 5 inches.

To make quite sure, however, and to be entirely within the mark, I will suppose to begin with, say, only one-twelfth; that is, under $2\frac{1}{2}$ inches, as able to find its way into the chalk, and to be collected easily. This gives 20 million gallons a day to begin with; and such a small proportion of the rainfall could be surely calculated upon at once, and be largely developed afterwards. It would not be got at one spot, but by sinking proper wells at different places in the district of the Rickmansworth Water Company, which extends over some 12 miles of the valley. The reservoir of the Grand Junction Waterworks is situated at Ealing; it would only require a main about 11 miles long, to reach it from these springs. When reached, the reservoir would deliver this spring water over the western districts of London, and the cost would be comparatively small.

It must be borne in mind that the chalk-spring water needs no filtration. As it would be pumped direct as it comes up from the rock into the mains, one of the most serious items of cost would be got rid of.

In recommending these two districts, viz., Rickmansworth and Leatherhead, for the assistance of London, I am practically supported by the authority of Parliament itself in the three Acts which it has passed for the incorporation of the companies dealing with those districts, wherein authority is given to dispose of surplus water, so that no fresh legislation is required, except such as may be needed for London itself to enable it to form its trust and to take the water. I am further confirmed by the high authority of those who have assisted, after careful investigation, in securing and developing the sites and springs I have recommended. I have further, in the wells I have sunk in these districts, and the exhaustive experiments I have conducted over a number of years, fully tested the water-bearing powers of the chalk by temporary and permanent pumping machinery, which can now be seen in daily work.

Hence, during the last ten years, I may claim that something really practical has been done for the solution of the problem of London auxiliary supply. Only those who have actually seen and known what the purity and brilliancy of chalk-spring water is can form any idea of its value. I will not enlarge upon this as space will not permit, but I will simply quote Professor Frankland, D.C.L., F.R.S, whose duty it is to analyse and report on the Metropolis Water Companies, who writes in the "Nineteenth Century," No. 78, August 1883, p. 351, thus of the chalk-spring water.

"Chemical analysis and a consideration of the source of "this deep-well water are alike convincing as to its im- "measurable superiority over Thames water. Over a space "of many years this water has remained of almost uniform "purity, and this without being subject to any artificial "filtration. For this water has undergone an inimitable "process of natural filtration through vast thicknesses of "porous strata, thus removing nearly all traces of matter in

"suspension, and reducing almost to zero the organic "matter in solution. This water, when seen in large "volumes, has a fine blue colour, which is not surpassed "by the water of the purest lake in Switzerland; and it "possesses a great advantage in maintaining an almost "constant temperature throughout the year."

This water is, it must be remembered, stored in nature's own most perfect reservoirs—the layers of flint beds in the chalk valleys.

It is now only necessary and possible to do for the north-west and south-west of London what has been done so successfully on the south-east by the Kent Company, over its vast district of 120 square miles.

Finally, I cannot too strongly dwell on the great difference which there is between the idea of a practical auxiliary supply of water, and that of a new and competing water project. One hundred years hence, no doubt some great project may be undertaken, but the present generation can do very well by employing the means at its hand, without any heroic remedies. It is manifestly absurd to talk of spending 10 or 12 millions in bringing water from Wales, when the splendid chalk sources of Rickmansworth and Leatherhead are only 15 miles off, and unused. It is only those who are ignorant of these sources who can devise remote and costly remedies.

On this question of supplemental supply the words of the late Mr. Coope, M.P., the Chairman of the East London Water Company, should be carefully studied, as he was one of those who, perhaps, knew more about the question than anyone else. Speaking to his shareholders on the 2nd October, 1884, he said:—

"In August last he called attention to the serious "position of the sources of supply to the Metropolis. He "was bound to acknowledge that, with this half-year the

"company had arrived at their limit of supply from the "Lea, and had been obliged to draw a large supplemental "supply from the Thames. The Thames itself could not "give an unlimited supply, although there was a consider- "able margin of the supply required by all the water "companies, yet even that source might be drawn down to "a rather fine point."

He says elsewhere, that "although the notion of a "competitive supply to London was a mere chimera and "absurdity, still the time might come when a supplemental "supply to the present might be required."

I shall conclude by a final quotation from the late Sir Francis Bolton, C.B., the official water examiner of the Metropolis, and therefore the highest official authority, and one who peculiarly distinguished himself by his study of the whole question.

Speaking of the opening of the new chalk supplemental supply of spring water at Brighton, on December 6th, 1884, he says of London:—

"Speaking as water examiner of the Metropolis, he "admitted that the London water supply would need sup- "plementing before long, and the metropolitan authorities "might with advantage follow the practical example set "them at Brighton in obtaining water from the chalk, by "the same effective means."

Colonel Bolton spoke this eight years ago. It appears that his good opinion of the chalk water was remarkably confirmed in 1890 by the Registrar-General, who, in reporting on the 28 great towns, places Brighton, a town wholly supplied with chalk water, as best but one.

Mr. A. M. Dunlop (Fellow) said he had great pleasure in proposing a vote of thanks to Mr. Grover for the able Paper which he had read, and which would, no doubt, be

the means of eliciting much valuable discussion on the very important question with which it dealt. It must be gratifying to all present that Mr. Grover had mentioned the name of a gentleman whom every Member of the Institution who knew him looked up to, not only as a man of great ability, but as a friend—the late Mr. Edmund James Smith. During the time that gentleman was investigating this question, he (Mr. Dunlop) was, on many occasions, professionally connected with him on other matters and discussed with him his views respecting it. Knowing the thoroughness with which he addressed himself to the task, and his great capabilities for doing it justice, it seemed to him a thousand pities that so much valuable labour had been thrown away, simply because two political parties could not agree. As Mr. Grover had said, the rateable value of London had increased immensely during the last 10 years, with the result that a much larger sum must inevitably be paid, at some future date, than would have been sufficient in 1880.

It was a great honour to the Institution when one of its Members was appointed to examine and report on this great water question, even though his scheme was rejected on grounds other than its intrinsic merits. He had himself no doubt that when the time came to again deal practically with the subject, The Surveyors' Institution would be able to furnish from amongst its Members men fully capable of affording most important assistance in ascertaining the value of the property in question. It was obvious that the longer the settlement of the question was delayed, the higher would be the price which could fairly be demanded over and above the price of 33½ millions, which would have satisfied the vendors in 1880.

With reference to obtaining the increased quantity of water which the growth of the population would render

soon necessary, Mr. Grover had said that it was not from sources like the Thames and the Lea that the supply would come, but from the deep water of the underlying strata, which might be utilised, to a great extent, at small cost. He had quoted authorities to prove that such water was not only obtainable, but that it would be of greater purity than the water taken from the rivers. The Bala Lake, and the Welsh lakes generally had been mentioned, but he (Mr. Dunlop) could not see why it should be necessary to go so far afield for the water, at such a tremendous cost, when, according to the reader of the Paper, it was not so pure as that within a short distance of the Metropolis. That was a point which scientific authorities thought it most important to thresh out amongst themselves, and it would be very necessary to ascertain whether those which Mr. Grover had quoted in support of his view were right or wrong on that question.

The extra quantity of water which would in the near future be required, seemed to be something like 45 millions of gallons, but it was very doubtful, he thought, whether the Thames Conservancy would allow the ratepayers of London to take even 30 millions more from the Thames than at present, so that something in the nature of a supplementary supply was rapidly becoming a necessity that could not be ignored.

Mr. F. K. Munton (Associate), in seconding the motion, said he felt some diffidence in addressing an assembly of surveyors, to whom it was very unlikely he could give much information upon the subject under discussion, but by whom he rather expected to be enlightened on the many technical aspects of the question of London water supply. He was himself one of those who thought that vested interests ought to be very carefully protected, but he could not entirely agree with all the suggestions in the Paper for dealing with them.

The author seemed to think that Parliament or the public were not right in revising railway rates, because in so doing they were interfering with the vested interests of persons who had bought shares at high prices, on the faith of the monopoly not being disturbed; but he (the speaker), although a shareholder in many railway companies, considered that Parliament had acted very properly in dictating to the companies what charges, in the interests of the public, they should adopt. He believed in The Surveyors' Institution coming to the front on such important questions as these, but he thought that it ought not to go forth that the Institution disapproved of the interference of Parliament, when such interference was for the public good.

It was much to be regretted that when, a few years ago, there had been an opportunity of acquiring the water interest at a reasonable price, the chance had been let slip. The time had certainly come when it was imperative that the position should be dealt with; and he hoped that, with the assistance of The Surveyors' Institution, Parliament would succeed in adopting a measure by which the water interests of London would be concentrated in one great central Trust.

It had been suggested by Mr. Grover that it was for the general good that some persons should pay 18½ times as much for their water as their neighbours; but he felt sure he should not be without the sympathy of at least some of the Members present, when he said that the sooner that state of things was put an end to the better. If the rich were to pay for the poor, it should be done openly, and in a direct way—not by mere rateable value. He knew of instances in the West End of London, where gentlemen with small families, and occupying houses at the rental of, perhaps, £1,000 a year, paid more than 18½ times as much for a less supply of water than that used by other people living in the immediate vicinity. It seemed to him that if a great

London Water Trust were to be established, it would be necessary to strike at the principle which had hitherto obtained of high rates being paid by one class and small paid by another for similar quantities of water.

He was especially familiar with the Thames at Richmond and also with Rickmansworth, and it was a striking fact that while there was generally too little water at the former there was mostly too much at the latter. He was pleased to hear from Mr. Grover that there were sources from which a great water supply could be obtained without increasing the drain on the Thames. He had some property near Richmond which had been very considerably deteriorated in value by the constantly diminishing flow of water in the river.

It was consoling indeed to find that an expert like Mr. Grover, with a full knowledge of the subject, was able to suggest a workable remedy, and he was sure that nothing but good could result from the discussion of such a carefully-prepared and thoroughly practical Paper before a body like The Surveyors' Institution.

Mr. J. G. Rhodes (Visitor) said that, as a Member of the London County Council, and, moreover, one of the Water Committee of that body, he approached the subject with some knowledge of its details and bearings. He thought the Paper had come at a very opportune moment, and must tend to further elucidate some points of the important question of the water supply of the Metropolis.

He would first deal with that side of the question which concerned the principles of administrative purchase. Under the guidance of Sir Thomas Farrar, as the Chairman of the Water Committee of the London County Council, that Committee had seen their way to present a report with regard to purchase which, he thought (speaking modestly),

contained some useful suggestions. He himself held, with all deference to Sir THOMAS FARRAR, whose abilities he wished distinctly to acknowledge, that there was no utility in flaunting the question of a competing supply, in the naked meaning of that word, before the water companies; for a competing supply could only mean a very large supply. It seemed to him that the mention of such a *competing* supply would not, probably, further those negotiations, which it was very desirable should be of a friendly character, between the municipal purchaser and the joint-stock seller. The important question was, how to bring about in the most agreeable way those preliminary negotiations which must form the basis on which any scheme of purchase could be concluded. The companies were, he thought, greatly responsible for whatever animus might be felt against them, for, in his opinion, they did a most unjust thing when they obtained Parliamentary powers to charge for water upon the quinquennial valuation from lustrum to lustrum. If a measure of the injustice of their powers were required, it was only necessary to consider how impossible it was to assume that they would be granted in the present day. He had himself come across some most amusing instances of injustice in the exercise of the companies' powers—instances so ridiculous that it was scarcely possible to believe them. Again, the companies had, he thought, done very unwisely in their administration of the powers which had been granted to them, and had behaved in a somewhat arbitrary manner. But when large bodies of shareholders obtained powers which, if not monopolies, amounted to very nearly the same thing, and when they exercised those powers in an arbitrary manner, Nemesis must overtake them at last; and he was certain that the price which the companies would ultimately get for their property would be reduced rather than enhanced by the consideration of the way in which their powers had been administered.

As an illustration of his meaning, he would give an instance of a case in which he was concerned as an administrator, in managing some poor property in the East End of London. The East London Water Company had for some reason, and with, he thought, very unnecessary hostility, cut off the supply. Of course he was obliged to conform to their terms for putting it on again, for he was between the sanitary inspector on the one hand and the company on the other; but after the water supply had been reinstated, feeling he should like to know something further about the matter, he wrote asking to be referred to the sections of the Act under which the company had exercised their powers. They first of all ignored him completely, and when he again applied they refused, under the hand of their secretary, distinctly and categorically to give him the information he sought. What could be said in favour of any such action by a corporation having a monopoly in virtue of an Act of Parliament, and supposed to be under a reasonable contract with the consumer? The companies were, he feared, raising up against themselves a feeling which would tell against them in the ultimate settlement of the question of the purchase of their monopoly.

The first point to be considered was the method of purchase to be adopted, apart from the price to be paid. In London there was a great body of public opinion which it would be hard to reconcile to the adoption of the provisions of the Lands Clauses Act and of the usual form in which a price was ascertained for property when compulsorily taken. It was important, therefore, to think out a means by which confidence could be secured for the ultimate award. And it must be borne in mind that, out of the eight companies, some represented a good value in their plant and some a poor value. Some of them had not been careful to provide any reserve fund, or, at all events, a sufficient one. In some cases the plant, regarded as plant, was of an

archaic character and in bad order. Every company found that its Parliamentary source of supply was running short, and there were various reasons why, if the present market value of their shares were taken as a standard, a considerable abatement would be necessary in some cases. It seemed to him (and it was with some reticence that he laid the suggestion before an assembly of surveyors, as the point involved was a purely surveying question and not an engineering one) that there should be appointed a small court of expert assessors, who would take upon themselves advisory functions with respect to value, and before that court, under a statute passed for the purpose, the companies would be compelled to reveal their whole affairs; for the idea of attempting any negotiations at all while the accounts of the companies were secret was absurd. The value of the stock should then be taken at its average price over the preceding decade.

Before this court of advisory assessors, would appear the purchasing interest as well as the selling interest; and it (the court) would be expected to advise as to the proper price to be paid for each company, considering the value of their stock during the decade, and taking therefrom such abatements as justice seemed to demand. It would then be probable that the purchasing administration and the sellers, individually, would endeavour to agree, the advisory court merely suggesting the price, but not binding either party. His own impression was that they would in almost all cases agree, but if they did not they should have leave to appear before a Parliamentary Committee, constituted of both Houses, if necessary, whose right and business it would be to finally settle the award. The public felt confidence in Parliamentary Committees, and where justice was sought it was believed it could not in this country be better obtained than by means of such a Committee.

Before this Committee, the companies would have the

right to appear in support of, or in opposition to, the suggested award. The purchaser would necessarily be the County Council, or a trust under that body, who would also have the opportunity to appear for or against the proposals of the assessors, and in that way a final arbitrament would be attained. He did not think the companies could complain of such a procedure, and the great end would be compassed of satisfying the enormous population of London that justice had been done, while the undoubted difficulty would be overcome that had arisen through the want of just foresight displayed by the companies in the administration of their powers. He had ventured with considerable reticence to lay these views before the Meeting; but most of his suggestions, though, perhaps, rather crude as first put forward, might be improved upon, and rendered, he thought, fairly arguable and reasonable by being carefully considered and amended by other minds.

So much for the administrative purchase side of the question. Coming to its engineering aspect, as to the quantity of water and its sources, he felt himself to some extent in agreement with the writer of the Paper, who, he was afraid, however, had dealt with the matter on a somewhat small scale. Besides Greater London, the fringe outside Greater London must be considered; and it was speaking well within bounds to say that it might be advisable to look forward to the necessity of a supply of 250,000,000 of gallons a day. If that were to be the case, the 20,000,000 or 30,000,000 which had been mentioned, added to what was obtained at present, would be of little service. There was no doubt that for the perfect health of the population sufficient water was not now used in London, and as the sanitary authorities continued to erect baths and washhouses, and to insist on ample supplies of water, still more would be required. Then, it would, probably, be sought to improve many of the areas

of London, composed of narrow streets and alleys, by such modifications as the laying down of impervious pavements of asphalt, and using larger supplies of water for cleansing the streets. Again, if the population increased in anything like the proportion which had been predicted, he did not think the estimate of 250,000,000 of gallons a day was too high. In periods of very small rainfall there had to be dealt with at Barking between 90 and 100 million gallons of sewage a day, and there would shortly be the same quantity, he thought, at Crossness. In the face of such facts, it did not seem to him that a sufficient supply for the future could stop far short of his estimate, 250,000,000 gallons.

A great deal had been said in favour of chalk water. It was, undoubtedly, very palatable, but it could scarcely be contended that it formed an ideal municipal supply. Chalk water, although it might be treated in a way that would make it an admirable supply, lost in that treatment the very quality for which it was principally praised, namely, its temperature. Temperature must not, therefore, be referred to as an element enhancing its value.

He had always been surprised that the Committee of Parliament had not taken into consideration the treatment of the chalk water supply which existed for a portion of Greater London. It would, undoubtedly, be expensive, but it would also be a great advantage to the consumer if this water were subjected to a process which, practically, subtracted the chalk. A good illustration of the treatment of such a supply might be found at Canterbury, where the water was so strongly impregnated with chalk that it was difficult to keep the bore-holes clear. Yet for that city there was a magnificent supply, the water being treated in the well-known way which resulted in an enormous deposit of finely-triturated chalk, leaving water of extreme purity.

He (Mr. Rhodes) could not resist that opportunity of

expressing his opinion that great and even wilful ignorance was sometimes displayed by many public speakers in the adverse imputations made upon the present supply of water to London. It was, undoubtedly, not so absolutely perfect as might be wished, but when people took upon themselves to say that it was only "diluted sewage," they incurred, he thought, a very serious responsibility. The water was not so good as it might be, nor so good as it probably would be in the future, but it could not be fairly described in such careless and extravagant terms.

He hoped that what he had said would find sufficient circulation to allay in the minds of the companies—if it could be said that companies had minds—or, at any rate, in the minds of their directors, some portion of the alarm at the proceedings of the County Council which many professed to entertain. The desire of the County Council was to be no less just in its requirements than Parliament would be in its award, and he was sure that this important question of the water supply, when once attacked, would be solved with less friction than was by some persons predicted.

In dealing with the question of the enhanced cost, it must be borne in mind that there had been additions to works and a large increase in the number of consumers since the time when Mr. Smith had made his suggestions, so that any enhanced price would not be all extra burden; for there would be a much greater number to bear it, and a burden divided was a burden lessened.

Mr. C. K. Bedells (Fellow) having moved the adjournment of the discussion, and the vote of thanks having been put and carried by acclamation, the proceedings then terminated.

No. 306.

AT

THE ORDINARY GENERAL MEETING

Held on Monday, February 29th, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

The adjourned discussion on the Paper read on February 15th by J. W. Grover (Associate), entitled "An Explanation of the London Water Question," was resumed by

Mr. C. K. Bedells (Fellow), who asked for the indulgence of the Meeting in the discharge of a duty which was somewhat painful to him owing to the death of his friend Mr. Lander, his partner for 38 years, who was well known to many in the room.

It was generally agreed that some modification of the existing arrangements for the water supply of London was absolutely necessary. The water companies seemed desirous of prejudicing their case by the extreme exercise of the powers they had acquired from time to time. Examples of this were common enough, but he might instance a case within his own experience where he let a house on lease 20 years ago, but the tenant, wishing, possibly, to evade the cost of dilapidations and other claims, left before the end of his term, with the result that he (Mr. Bedells) was called upon to pay the water rates due from the lessee. The injustice was manifest.

Then, again, the uncertainty as to the varying requirements of inspectors in different districts with regard to the fittings was another harassing and annoying circumstance in

connection with the present system; but perhaps no worse case of hardship could be found than that which formed the substance of a recent considered decision of Mr. Curtis Bennett, of the West London Police Court, in the case of *Elgar* v. *The Chelsea Waterworks Company*—a case which had elicited indignant comments from almost every leading organ of the Press.

The complainant failed in this case on a purely technical point connected with the definition of a "legal tender," but the fact remained that the company had deliberately persisted in a claim which, whatever their abstract rights might be, must shock the natural sense of justice in the mind of every impartial person. He did not wish to weary the Meeting, but he thought, perhaps, that the remedial legislation suggested by the magistrate for meeting future cases of the kind was worthy of consideration and of being placed on record in the "Transactions." Mr. Curtis Bennett said:—

"Legislation is imperatively needed to give the consumers some set-off against the present powers of the water companies, who supply that which is absolutely essential for health and life, and without which people cannot live in the Metropolis. At present, although persons have duly paid all rates demanded from them—say in October up to Christmas—on December 26th, or on any subsequent date, before another payment the companies have power, without any notice, to cut off the whole of the supply to London. I believe that a short Act would in a great measure meet many of the difficulties, and I suggest the following: 'That it shall not be lawful for any water company to cut off the supply at any time existing to any premises for non-payment of any water rate without at first leaving, either with the owner or occupier thereof, or affixing on some conspicuous part of such premises a notice stating the amount due to them for any water rate, and giving fourteen days for the payment of such amount; and if any dispute should arise between the parties as to the amount due, either party within the said fourteen days may apply to any court of summary jurisdiction for a summons against the other party to hear and determine what amount is due; and should any water company cut off any water supply to any premises contrary to this provision, the company shall forfeit the penalty of £20, and the further penalty of £5 for every day during which such supply is so cut off. Provided always that if the Court shall be satisfied that the water has been cut off

" solely on account of any necessary repairs to the works, or mains, or " pipes of the said company, then the company shall not incur any " penalty for cutting off the water.' But, in my judgment, the power " of cutting off the water supply to any premises for non-payment of " water rates should be absolutely taken away from the companies, for " that which to life and health is essential should not be so dealt with. " The remedy should be that if the water rate is unpaid fourteen days " after having been demanded, the companies should have power to " recover the amount due in a court of summary jurisdiction in the same " way as poor rates are now recoverable. And within the fourteen days " of the demand the person from whom the rate is demanded should have " the power to dispute the same by a summons in a court of summary " jurisdiction."

He thought he had said enough to show that the powers of the water companies were both arbitrary and arbitrarily exercised, and that it would be well that a Commission should, without delay, be appointed to revise their powers and parliamentary privileges. If a Board of Commissioners were formed, it would be their duty to review the rates as well as the amount of intake from the Lea and the Thames, and to enforce, with every extension of the facilities for supply, a modification of charges based on a suitable sliding scale, as is done by the Board of Trade when provisional orders are required by the gas companies.

In view of the alarming prophecies, uttered in some quarters, of a probable water famine, it was a very considerable relief to find from Mr. Grover's Paper that there was immediately available a good supply of at least 20,000,000 gallons a day from the chalk at Rickmansworth. It was not quite clear how Mr. Grover's views were to be reconciled with those of Sir John Lubbock, in an article in the *Nineteenth Century*, as to the water taken from the chalk being *pro tanto* taken from the river. He would venture to read a portion of the article.

" Now, as regards the possibility of obtaining any large " additional supply from wells, the Royal Commissioners of " 1869, in paragraphs 146 and 147 of their Report, truly " say:—

" ' We do not agree with those who expect to get an almost unlimited
" ' increase of quantity of water by simply tapping the natural reservoirs
" ' in the chalk, for the supply of them must obviously be limited by the
" ' amount of rainfall. Moreover, as the water which penetrates into the
" ' reservoirs, raising the water line more or less above the level of the
" ' adjoining valleys, ultimately, in greater part, finds its way by springs
" ' into streams at the lower level of the district, any water drawn from
" ' the store by artificial means will most probably be at the expense of
" ' those streams. If this be true, it follows that any water obtained by
" ' tapping the chalk reservoirs that feed either the River Lea or the
" ' Thames above Hampton would only *pro tanto* diminish these streams,
" ' and would therefore be little or nothing gained to the general supply.' "

" I do not say that this opinion is unanimously concurred " in, but it is that of Mr. John Evans and other high " authorities. The next question is whether it is possible to " store up water in the Thames valley. Mr. Binnie, who " has known the Thames valley for many years, and to whose " reports I am indebted for many of the foregoing facts, has " been himself engaged in the construction of larger storage " reservoirs, and has informed the Council that he knows of " no sites in the Thames area suitable for storing water for " the domestic supply of the Metropolis, nor, indeed, has any " engineer of experience in the construction of such reservoirs " advocated such a scheme. Moreover, we must remember " that, even were such works possible, they would be at too " low a level to supply water by gravitation, and large annual " expense would have to be incurred for pumping."

He certainly thought that the water supply ought to be under the control of the London County Council, and not of private companies, and on this point his views were confirmed by the recommendation of the Duke of Richmond's Commission, as quoted in Sir J. Lubbock's article :—" That " the future control of the water supply should be entrusted " to a responsible public body, with powers conferred on " them for purchase and extension of existing works, and " for levying certain rates referred to." The Select Committee, of which Sir W. V. Harcourt was Chairman, and

which examined into the provisional agreements for purchase contained in the Government Bill of 1880, reported :— "That it is expedient that the supply of water to the "Metropolis should be placed under the control of some "public body, which shall represent the interests and "command the confidence of the water consumers."

As to the case of new works in cities where there was as yet no water supply, there could be no doubt that such undertakings should be in the hands of the municipality, and not of any private companies; but the case of London and Greater London was different, the ground there having already been occupied by companies, and he was in some doubt as to the advisability of buying such gigantic undertakings as these at their present market price. He would put them under fair conditions by Parliamentary action, and leave them to do their present gathering, filtering, and distributing work, but no more. The London County Council and its staff had already too much to do, and it would be difficult for them to find a new staff with the requisite experience of this particular work, if the officers of the old companies had to be pensioned off. On the question of a competing supply he found himself much in accord with Sir John Lubbock : the laying of mains for this through all our streets should not be entertained, and he thought the Council should seek Parliamentary powers to secure the option of all possible supplies of water referred to by Mr. Grover, not yet appropriated, even if they were so far distant as Bala, in Wales. Having so secured a sufficient supply, London might be encircled with the necessary mains for the outlying districts, and these mains could supply to the existing companies by junction with their pipes the further water they will soon need, at prices and on conditions which would be fair to both parties. This could be done at a cost much less than the total price necessary to purchase

the existing companies, and without inflicting any injustice on them, whilst it would give sufficient control to secure the interests of the consumers. With reference to any procedure for the purpose of valuing the undertakings and the various interests and incidents to be considered, he thought that no tribunal could be appointed to deal with the matter so satisfactorily as one comprising experienced Members of The Surveyors' Institution, and other kindred bodies of men having the practical and technical knowledge only to be acquired by long experience.

Dr. JOHN EVANS, F.R.S. (Visitor), said that he agreed with a great many of the arguments in the Paper, but there were several points on which he differed. Into the question of the management of the water companies, and how far there should be some central authority to take them over and deal with the water supply of the Metropolis, he would not enter; but there was another important question to be considered, which was whether the present supply was sufficient, and whether additional sources should or should not be drawn upon. In his Paper Mr. GROVER had pointed out what he considered to be the possible sources of supply, but with regard to the sources suggested, he differed from Mr. GROVER *toto cœlo*. It might be desirable to find additional sources; but until the report of the Commission on the question was forthcoming it would be premature to express any opinion on the question as to whence the additional supply should be procured.

It was true that the unfortunate River Lea sometimes had its entire flowing water abstracted, and at certain times was like a stagnant ditch, this condition of things being aggravated by the number of wells in the district. What had happened to the Lea Mr. GROVER had been kind enough to suggest should happen to the Colne, on which he (Dr.

Evans) lived, and in which he had some pecuniary interest. It was also pointed out in the Paper that the water had found its way into the chalk under the London basin in a thin film of enormous extent, but where it existed he did not know. If it existed, some of the deep wells of London could hardly have come in contact with this film, for the water level had sunk 100 feet or more within the memory of man.

In his Paper Mr. Grover had also stated that there was a rainfall of 26 inches per annum over the valley of the Colne, and had calculated that fall to be equal to a supply of 260 million gallons a day. But he was glad to find that Mr. Grover agreed with him that, out of the 26 inches, in certain years not more than 3 or 4 inches were available, all the rest being carried off by evaporation or vegetation. Taking 2½ inches of rain as available, there would be given about 20 million gallons a day, at what Mr. Grover had called the "neck of the bottle" at Rickmansworth, but the question was, could that 20 million gallons be taken from that spot without affecting the water in the "bottle" itself? He (Dr. Evans) lived in the "bottle," and so was interested in the answer. It seemed to be argued that if a leaky cistern filled with pebbles had water turned into it in excess of the leakage, so that it overflowed, a person pumping from it would stop a leakage from the bottom, but would not stop the overflow.

The author also maintained that, if a well were puddled, or an iron tube put in to a depth of 20 or 30 feet, the surface water would be shut out, but experience scarcely confirmed such a statement. It was evident that, if there were an impervious stratum separating the waters below that firmament from the waters above, it would be impossible for any of the rain that fell to get through that firmament so as to supply the waters below it. If, on the contrary, the chalk were fissured in every direction, the

whole of the subterranean reservoir would form one body of water, and any water that was abstracted from it would interfere with the natural overflow from the basin. The writer of the Paper had said that it was better to take the water from the chalk than from the river itself. This might be true, but, if 20 million gallons a day were to be diverted from the Colne, there would be an interference with the flow of that river to the same extent, and there would be less water flowing thence into the Thames by 20 million gallons per day. It would be merely anticipating the income of water to take the water that would otherwise flow down the stream, instead of letting it come down to be used afterwards. A gentleman in the neighbourhood of Rickmansworth had sunk a well in close proximity to the river, and had returned the water to the river after having used it, and was able to say that he did not thereby lower the level of the river; but perhaps Mr. Grover might remember the experiments carried on under the auspices of the Court of Chancery in the year 1840, in connection with the case of *Dickinson* v. *The Grand Junction Canal Company*, in which he (Dr. Evans) had been personally interested. A well was sunk by the Canal Company to a depth of 70 feet, which laid dry the springs and sources of the river for some distance. This was thought to be easily explicable, and it was resolved to puddle the well all round, and try the experiment again. It was accordingly done at great expense so as to shut out the surface water, but, notwithstandiug this precaution, they still made the watercourses dry, and killed the watercresses in the river bed, just as much as they had done before. Anyone who considered the fact that streams on porous soils were due to the overflow of a natural reservoir, and were, in fact, the gauge of the excess of rainfall over and above the amount of water carried off by evaporation and vegetation, would see that by pumping in the neighbourhood of a stream,

the whole of the water pumped was practically abstracted from the stream, as would be the case of the proposed wells at Rickmansworth, where water would be taken from the River Colne which would have fallen into the Thames, above the intakes of the water companies. He would only, in conclusion, emphasise the fact, which he was afraid was not always recognised in dealing with these questions, that no more water could be got from any district than fell from heaven over that district, and not even all that, by far the greater portion of it being carried off by evaporation and by vegetation.

Mr. A. G. Rickards (Associate) said that he felt great diffidence in speaking after so eminent an authority as Dr. Evans, and he did not propose to detain the Meeting with his views upon geological or engineering questions. He had had the honour of appearing as leading counsel for the Bill for establishing a water trust to acquire the undertakings of the London water companies. There were only two points in the Paper on which he would wish to make any criticism, the one being that Mr. Grover, in speaking of the supplemental supplies to be derived from the chalk by deep pumping, did not sufficiently take into consideration the effect of the pumping on the localities where it took place; and the other, a point which, Mr. Grover, in his honesty, had not, perhaps, sufficiently taken credit for, but which he might fairly have claimed, viz., the possibility of economy of the present available quantity by the greater spread of the system of constant supply and by more complete measures for the prevention of waste than at the present time existed. Before the Committee of Sir Matthew White Ridley last Session, very interesting evidence had been given as to economy in utilising the available supply, and it was stated by Mr. Deacon, the well-known engineering authority

on water subjects, that since the year 1870 the reduction per head in the consumption of water in the Metropolitan area was from 32 to 20 gallons per day, partially owing to the introduction of the constant-supply system, which in the present day applied to about 62 per cent. of the houses, and partly to the more efficient prevention of waste which had taken place. He did not think Mr. GROVER had taken to himself sufficient credit with regard to the amount of water which would be in hand if the prevention of waste were more thorough, and the constant-supply system more prevalent, nor, on the other hand, did he think that he had dealt sufficiently with the possible ill effects of deep-well pumping.

He ventured to sum up Mr. GROVER's views as differing from those of Dr. EVANS, whose contention was that all water came from above, and that therefore, if any part of it were intercepted, there was so much less to flow down the rivers; whereas, Mr. GROVER's evidence in the House of Commons was that at a certain point in the passage of the water underground it was distributed among several strata which were divided one from another by an impervious bed of rock, and that, by sinking to the lowest stratum, there would be tapped a film of water that could not return to the surface streams, and which would not therefore affect them.

He would like to mention one or two points brought prominently before the Committee last year, with regard to the present Parliamentary and legal aspect of affairs. Mr. BEDELLS had quoted the conclusions at which the Duke of RICHMOND's Commission had arrived. That Commission, which was appointed at the end of 1866 and reported in 1869, was concerned rather with the scientific aspect of the question, while the question with which Sir W. V. HARCOURT's Committee was concerned was:—Assuming it to be right to replace the water companies by a municipal body, upon what

basis should compensation be made to the water companies for their undertakings and their goodwill? The Duke of Richmond's Commission had reported upon the quality and the quantity of the water. As to the quality of the water, they found it to be very good on the whole; and Dr. Frankland, the present Government analyst, had since, from time to time, reported on the quality of the water supplied to the Metropolis, and had testified to its great improvement within the last 20 or 30 years. As to the quantity of the water, the Duke of Richmond's Commission reported that it would not for some time be necessary to go beyond the Thames and the Lea, supplemented by deep wells in the Colne district and in the north-west and the south-west of London. They based their estimate upon the growth of London at that time, but this had since to a certain extent been shown to be fallacious. The population of London had increased at a greater rate than the Duke of Richmond's Commission had anticipated, and therefore it had become necessary to go further afield. In the Bill introduced by the vestries, it was proposed to take a supplemental supply from the chalk hills and valleys in the Leatherhead district and the Uxbridge and Rickmansworth districts. About the quality of that supply there could be no question, but, as regards the effect of taking it, Sir Matthew White Ridley's Committee had not had time to hear sufficient evidence, and it was very much open to question whether the injury done would not be too great to justify London drawing more generally upon those sources of supply. There had been opposition to the Bill from the Surrey County Council and the County Council for Hertfordshire, who warmly opposed the scheme because they said that their districts would be rendered destitute of water.

Dealing with the question of compensation, Sir Matthew White Ridley's Committee had taken for granted the

expediency of a public body, commanding the confidence and representing the interests of the water consumers, being the water authority of London. They refused to entertain the question of a competing supply, because of the enormous sums of money that had been already spent in laying the mains in London, and the great expense of relaying them. It therefore being assumed that the distributing mains of the water companies would be required if a municipal water authority were constituted, the question arose as to what would be fair compensation to the companies if the municipal authority were given a monopoly of supply. Before the Committee they had taken Mr. Cross's Bill as their model —the Bill on which Sir William Harcourt's Committee reported in 1880—and they considered that, as Parliament had declined to accept the valuation of an eminent Past President of The Surveyors' Institution, Mr. Edmund James Smith, it would be better to leave that question open as one to be settled by arbitration. The ground of the rejection of Lord Cross's Bill was that Mr. Smith had allowed too much for unearned increment, and too little for the possible expenditure that the companies would have to incur in order to obtain additional supplies of water. In the Vestries' Bill an endeavour was made to avoid that mistake, by providing that the compensation to be paid to the companies should be settled by arbitration; but not under the Lands Clauses Act, it being customary under that Act to give 10 per cent. for compulsory purchase. They thought that they had better have a skilled board of arbitration to determine the amount to be paid to the companies, and provided that there should be a board of four arbitrators, one to be appointed by the Local Government Board, one by The Surveyors' Institution, one by the Bankers' Institute, and one by the Institution of Civil Engineers. The question then arose, what was a fair basis on which to calculate the amount of

compensation to be paid? Should it be the value of the companies' shares on the stock market, or were they to be paid only for their actual plant, pumping machinery, land, and mains; or should the price of purchase be reckoned on the value of their goodwill? It was decided that the right course was to take the value of the undertakings on the money market, but with the very important proviso that the board of arbitration, in estimating the compensation payable in respect of the undertaking of any company, should have regard to the adequacy both of quantity and quality of the water derived from its various sources of supply, in view of the present and future requirements of each district. They endeavoured to avoid the rock on which Mr. E. J. Smith's scheme had been wrecked, by taking into consideration the primary expenditure the companies would have, in the near future, to incur in supplementing existing sources of supply.

It was further intended by the Bill that the municipal authority, in becoming a water authority, should complete the transfer within a limited time. Most important figures were quoted by Mr. Wilkins, the principal witness for the Bill, as to the enormous growth in value of the undertakings of the companies; and the conclusions to which he (Mr. Rickards) had come were that for the present the Thames should be retained as the principal source of supply; that it should be supplemented by wells, so far as it was practicable to use them without injury to the districts from which the water was taken; that careful economy should be practised, by the further introduction of constant supply and the further prevention of waste; and, above all, that this should be done with as little delay as possible. The plan suggested by Mr. Rhodes at the previous Meeting of the Institution would, it was obvious, cause delay; it was proposed that a board should assess the compensation to be paid to the companies in the first instance, and that their

finding should be subject to appeal to Parliament by the companies, or possibly by the water authority, whereas the committee which he represented desired to make the award of the arbitrators final.

Above all, he was anxious to impress upon the Meeting the enormous importance of dealing with the question as soon as possible, in view of the great rise there had been in the market value of the water companies' undertakings in comparison with the amount of capital issued since 1871. In 1871 the market value of the eight undertakings was £14,475,000 ; in 1890—nineteen years after—it had risen to £33,444,000, an increase, in round numbers, of £19,000,000. In the meantime the additional capital which had been raised was less than £4,500,000 ; the increase in market value thus being out of all proportion to the amount of new capital. If the market value was to form any sort of guide—and it could not be altogether left out of consideration—to the amount to be given by the ratepayers, every year's delay would be most costly to them. Sir Matthew White Ridley's Committee had adopted this view—that the London County Council, or a Statutory Committee composed of the London County Council and of the Corporation of the City of London, should be required, either alone or in conjunction with the authorities of the outside areas, to purchase the undertakings of the eight water companies by agreement or, failing agreement, by arbitration within a fixed period.

Mr. Wheeler, Q.C. (Associate), said although he had not the good fortune to have been counsel to the association which his learned friend, the previous speaker, had acted for, he had some slight knowledge of the subject in hand, and he approached it with a good deal of interest. He would refrain from endeavouring to reconcile the scientific

differences existing between Dr. Evans and Mr. Grover, for it had been said that experts existed for the purpose of differing. He (Mr. Wheeler), being of a guileless and confiding nature, had read Mr. Grover's statements with absolute confidence as to the ability of the Rickmansworth district to produce so many millions of gallons of water a day, and had looked forward to a happy and salubrious old age, with a constant supply of pure cold water; but now, alas, these hopes had been dashed by Dr. Evans.

One of the most important points to be considered in the whole question was, he thought—taking it for granted that some alteration in the present system of supply was necessary—To whose hands was the supply to be entrusted? Reading Mr. Grover's Paper with care and diligence, he found two things in it upon which he differed altogether from the author. He found that, supported by Mr. Munton, Mr. Grover seemed to favour the idea that, when the water required was found, its distribution should be entrusted to some great central authority or trust. He (Mr. Wheeler) begged to differ. He would ask Members present to contemplate for a single moment the existing position of affairs. There was Parliamentary representation, there was municipal representation, there were county councils, there were school boards and boards of guardians, and vestries, and now people were threatened with a water trust, and perhaps in due time a gas trust and a tramway trust, and, in fine, the whole of society would be converted into one colossal "Bumbledom." So far from multiplying authorities, he was for adding dignity and importance to those already existing, though he was aware that many thoughtful and distinguished persons did not look with favour upon the idea of a great municipality for London. London had long since ceased to be a mere city, even a mere capital city—it was a nation, exceeding in the number of its inhabitants and in

wealth many independent states, and it was considered by many persons to be too great to be entrusted with the powers of a municipality. This might be so, but at the same time he was bound to say that, dealing with attacks on the existing water companies, whatever disadvantages there might be in the scheme, he was in favour of vesting the water control of London in a municipal authority. But should it be a municipality for the whole of London? Members present would recall the Latin adage, *Naturam expellas furcâ, tamen usque recurrit*; and, after all, Nature was the best guide. He had sometimes thought that it was intended by Nature that there should be two great cities on the banks of the Thames, one on the northern and the other on the southern side of the river.

Passing over the question of how the proposed Trust was to be invested with its powers, he would touch upon a passage in Mr. Grover's Paper from which he, with all respect to the writer, would differ. Mr. Grover seemed to think it an admirable thing that the rich should pay for the poor. He (Mr. Wheeler) did not so think—not that he would object to being paid for. But there was a lack of clearness, to the mind of a lawyer, as to who were just poor enough to escape the rates and who were the rich who were just rich enough to pay the rates for the poor. How was the line to be drawn? He did not think that the importance of the great principle laid down in the rules of the Pickwick Club was sufficiently recognised, viz., that "everyone should pay his own expenses."

On page 226 of the "Transactions" Mr. Rhodes had told how he had been very scurvily treated by a water company, and had seemed to sanction the idea that these great corporations were beyond the reach of the arm of the law. But it was a fact that the law, simply applied, and not in the hands of amateurs, nor of gentlemen who go to the

companies and say, "Be good enough to tell me the Act of Parliament under which you act," but in the hands of ordinary persons, who, under such circumstances, would consult a solicitor, was amply effective. Some time ago a water company failed, in the months of January and February, to supply a large tenement property in one of the poorer parts of London with water, with a most disastrous result to the humble dwellers in that tenement property. The solicitors acted wisely, they came to the Temple and requested a junior member of the Bar to look at the Act of Parliament, and advise them whether the water company had power to do what it was doing. Counsel did so, and came to the conclusion that the water company had committed within one 24 hours something like one hundred statutory offences. Having the courage of his opinions, he was in due course entrusted with a brief to go and apply to a Metropolitan stipendiary magistrate for summonses against that same company. The magistrate listened with courtesy to his statement and granted his application, and fifty summonses, to start with, were issued. In due course the company put in an appearance. Their case was very simple —almost sublime in its simplicity. They were the noblest of water companies, and had supplied water to man and beast under all conceivable circumstances, their aim being to do good to all mankind in their day and generation; and they had only failed on the particular morning in question because of the frost and fogs, and because their workmen did not take further measurements and could not see what to do, and so a very large number of poor people had had to go without water for 36 hours. The learned counsel, however, pointed out that frost and fogs were things not altogether unknown in London, and that they ought to be provided for. The magistrate took counsel's view, with the result that penalties were inflicted on the company

amounting, with costs, to nearly £100—and the water next morning came in with the speed and volume of Niagara. That was a very simple case, but it was sufficient to show that the water companies were not the omnipotent bodies they fancied themselves to be or that others thought them.

The case to which Mr. Bedells had referred depended upon what was called by lawyers "legal tender" (at least so it appeared from the report), and, as there had been no legal tender by the complainant, his case fell through.

It was hardly necessary, he thought, to call the attention of the Members to an article in the *Quarterly Review*, for they had, doubtless, read it, in which some of the figures in the Paper were, if not discounted, yet certainly questioned, and from which it appeared that the Thames and its tributaries would supply the City of London with a sufficiency of water for the next 63 years without difficulty, allowing for an increase of from 90,000 to 100,000 per annum in the population. The article stated that there was in the Thames and Lea a capacity of something like 222,000,000 gallons a day, and, taking the total from these and other sources and from storage at 300,000,000 gallons, there would be sufficient to supply 25 gallons a day to something like 12,000,000 of people.

Mr. H. Wilkins (Visitor) said that, although reference had been frequently made by previous speakers to the arbitrary powers possessed by the water companies, he thought that these powers had been exercised with no little moderation, for there had been very few cases before the public like that to which Mr. Bedells referred. In dealing with the question of the future supply of water to London, it might well be assumed that the present system of supply would not be allowed much longer to continue, and that the companies were destined to make way for a public water

authority. This was a practical question affecting both those inside and those outside the County of London. At present it was quite true that the rateable value of the County of London was about £33,500,000, compared with about £5,000,000 the rateable value of the outer ring within the Metropolitan water area. It was also true that the population of the inner ring was nearly 4½ millions, as compared with 1¼ millions in the outer ring; but it must be borne in mind that the area of the County of London was barely 120 square miles, whereas the statutory powers of the eight Metropolitan water companies extended over something like 500 square miles, and that the relative populations of the outer and inner rings were rapidly approaching each other.

The purchase of the water companies would naturally form the subject of a loan over a number of years, the ordinary period for a loan being 60 years for county council purposes; and it would not be right that the repayment of such a loan should form a burden over such a period, or even for 90 years, on an area less than one-fourth of the extent of the area benefited.

These facts appeared to support the view that the London County Council was not the ideal water authority for London; and it further appeared to him that, long before the debt was paid off, the condition of things might be reversed, and that the County of London would be obliged to pay for a supply of water beyond its boundary, in which its inhabitants had, practically speaking, no interest at all. It also appeared to be reasonable that the ratepayers in the outer ring might object to being provided with water by a body on which they were not directly represented, and it was without doubt that the authority which the Duke of Richmond's Commission had in view was one representing the water consumers of the whole area; while Sir William Harcourt's Committee spoke in much the same terms with

regard to it, saying it should be one commanding the confidence of the consumers in the area of supply, which area was, as he had shown, four times the extent of the County of London.

With regard to subterranean water, it appeared to him that, at some stage or another, it must traverse the stratum which supplied the rivers; so that, by abstracting water from the lowest stratum, some would be absorbed or sucked down, which, in the ordinary course of events, would have flowed along at a higher level. Speaking of Sir JOHN LUBBOCK's article in the *Nineteenth Century*, which he had read with a deal of attention, he would point out that Mr. BINNIE was a pupil of Mr. BATEMAN, and naturally adopted his views; but a greater authority than Mr. BINNIE—Sir ROBERT RAWLINSON—in a memorandum laid before the Committee of the City Corporation in 1890, had demonstrated in the clearest possible language the possibility of intercepting a large amount of water before it entered the open Thames, and had stated that, by constructing storage reservoirs at certain points (which, however, he had not indicated), for use when there was a superabundance of water, a supply of the very best quality could be provided for a great number of years.

With regard to the quality of the water supplied to London, could it be believed, if there was really anything seriously wrong with it, that the mortality of London could be kept at its present low rate? Instead of being from 20 to 22 per 1,000, if it were as bad as some experts would make out, the rate would be doubled, and it spoke well either for the stamina of the Londoner or the purity of the water supply that the rate of mortality should be so low.

Mr. E. K. BURSTAL (Visitor) said he feared that a large portion of the time available for the discussion had

been taken up with what was *not* Mr. GROVER's Paper, and he was bound to say he thought it was time to get back to what was really the subject with which the Paper dealt. Upon page 197 he noticed that the author mentioned the fact of the companies having been allowed to abstract daily a "vast volume of public water at a nominal charge." But the companies were paying £18,000 a year to the Thames Conservancy, and surely that could hardly be called a nominal charge. On the same page, the writer said that anybody might dig a well for himself and his neighbours; but there had been a very instructive example of well digging lately, upon which he would venture to trouble the Meeting with some remarks. The London Corporation dug an artesian well in the City, to supply some artizan dwellings, at a cost of £3,500, the pipes and mains costing £1,600, and the estimated annual cost of maintenance being £130 or £140. Allowance had been made for the repayment of capital, at 3½ per cent., in 50 years. The sinking fund would thus be £41 16*s.* 5*d.* per annum, and the interest £178 10*s.* The working expenses were £130 per annum, and these figures together made a total of £350 6*s.* 5*d.*, while the annual charge by the water company had been £80, so that there was a balance against the undertaking of £270 6*s.* 5*d.* Mr. GROVER had said that the increase of the rateable value of London was £1,000,000 a year, and that the water companies could charge all round 5 per cent., giving £50,000 a year increase. This increased income was received, he said, with very small extra expense on the part of the companies, but he (Mr. BURSTAL) would like to point out that that increase of £1,000,000 a year was made up in many ways,* and the greater portion was derived from the increased rating of railways, gasworks,

* Further information on this point will be found in the current number of "Professional Notes," vol. v., pp. 260-261.

and other undertakings, and there were 17,000 extra houses to supply.

It was not by any means the water companies who derived the whole benefit of the 5 per cent. In 1880 the average number of houses supplied by the London water companies was 588,050; in 1890 it was 763,963, showing an increase of 25·68 per cent. of water rental. It would be noticed that the value had not increased in the same ratio as the houses, so that, when it was asserted that the increase of 5 per cent. was earned by the companies with very small extra outlay, the facts did not bear out the assertion, and still less so when it was seen that in 1880 the company received on an average from each house £2 9*s.*, whereas in 1890 it was £2 7*s.* 4*d.* The rates paid by the companies were £90,115 in 1880, and £162,670 in 1890; an increase of 80·51 per cent.

On page 210 Mr Grover quotes from the report of the River Pollution Commissioners, "The supply of it (*i.e.* the "chalk water) would be a priceless boon," but this quotation should be continued to the end of the sentence as follows— "and would at once confer upon it absolute immunity from "epidemics of cholera." Now in 1849, during the cholera epidemic, the inhabitants of towns in the Black country, such as Wolverhampton and Walsall, suffered very greatly, people even being obliged to camp in the open fields. Those towns were situated on the River Tame, which flowed from them down to Birmingham, and water from that river was supplied to Birmingham, yet in Birmingham there were no cases of cholera. In Coventry, which was supplied by artesian wells and springs, the cholera was very fatal. It had been proved over and over again that the cholera enters at our seaports, and spreads inland, and that elevation above the water level of the district is a far more important factor in considering the spread of cholera than the water supply.

Of course if cisterns in houses are allowed to communicate, by means of an overflow, directly with the sewer, the water may get the discredit of spreading disease. Again, as to the question of the purity of the water; the Royal Commission on Water Supply, in 1869 (page xcii., paragraph 194 of their Report), gave some analyses, and Dr. FRANKLAND gave figures which might be capable of scientific explanation, but which to the ordinary lay mind seemed somewhat extraordinary. The River Thames, where it sprang from the ground at the headwater, contained "previous sewage contamination" to the extent of 3·260 parts per 100,000,* but when it had flowed down to below Lechlade it was 1·270, and at Hampton it was 1·640. The chalk springs at Amwell, which formed the New River Company's source of supply contained 3·740 parts, and the average supply of all the companies taken from the Thames was 1·751 parts of previous sewage contamination, while in the Kent Company's chalk water it was 3·393 parts, and from the Croydon sewage farm there was no previous sewage contamination whatever.

Mr. E. H. STEVENSON (Fellow) said he was in some doubt whether there was any use in going outside the present water supply for an increase. In the large provincial towns the authorities not only supplied the water to the consumers, but took care what happened to it afterwards. They went through the houses and made the occupiers keep their fittings in proper order, the result being that they had a domestic supply averaging from 10 to 15 gallons per head. In some towns 10 gallons per head was ample; in others, 12, 13, 14, and 15. Curiously enough, during the last 20 years,

* In other words, 100,000 lbs. of the water contain the mineral residue of an amount of animal organic matter equal to that found in 3·260 lbs. of average London sewage.

ever since the Duke of Richmond's Commission, the consumption per head of the London Companies had very slightly decreased, and in one case it had even increased. Mr. Grover had remarked that generally the companies supplied 167,000,000 gallons of water per day. But, assuming for the moment that the companies had only carried out the provisions of their Acts as to the fittings, they would not require to supply anything like that quantity. One hundred and sixty-eight million gallons a day, properly supplied, would suffice for a population of 7½ millions of people, London having but a small trade demand for water. Taking 15 gallons as the domestic supply, and 7 gallons as the trade supply per head, the water at present supplied would be ample for 7½ million people but, as was well known, the London water companies had power to take something like 40,000,000 gallons per day more from the Thames. Mr. Grover had expressed doubt whether they would ever have the "impudence" to do it, and it was true that they might never do it, but they had the power. Supposing that 59,000,000 gallons were taken from the Lea, and 29,000,000 gallons were supplied from wells, that, with 110,000,000 gallons allowed by Mr. Grover, would bring the total up to 198,000,000 gallons, which, at 22 gallons per head, would supply 9,000,000 people. Under those circumstances, was there any use going elsewhere for a supply? All that was necessary was that the companies should properly carry out the regulations imposed by their Acts, and see that builders put in proper pipes and fittings, as was done in the provincial towns. If that were done there would be a plentiful supply, not for all time perhaps, but for the probable future of London for years to come.

Mr. W. Whitaker (Visitor) said he must congratulate the author of the Paper in having approached the subject in

a very moderate spirit. Many people talked of the subject as if they were living in dread of hydrophobia. With reference to the one great question—the area available for water supply—an ordinary geological map would show a large area of chalk. Geologists and engineers had argued from maps of the sort that there was a certain breadth of chalk, with a certain quantity of rainfall, and therefore a certain quantity of water available; but, if a map showing the drift were studied, it would show the true state of things, for it would be seen that the broad chalk area was considerably diversified by various patches, many of a more or less clayey kind, which greatly modified it. He was pleased to see that Mr. Grover in his Paper had acknowledged the fact that the whole area of chalk was not available, but he thought he had under-estimated the large extent to which it was diminished. The water which fell upon those overlying beds found its way, in part, to the chalk, but over such a large area a considerable portion of it must be lost by evaporation before it got to the chalk. In the Leatherhead area only a small portion of the water was thus taken away. In the Valley of the Colne there was a large amount of water but he agreed with Dr. Evans that, if that water were taken, the streams would be impoverished. The idea of Mr. Grover had been that, if a well were sunk and the lower chalk were reached, an independent supply would be obtained. That was not impossible, but the supply came from the highest points of the valley where the lower beds of the chalk cropped out; so that Mr. Grover's Rickmansworth well did not appreciably affect the river close by, but, if it did affect it, it was at a higher level, where the water came in. With regard to the Leatherhead site, Mr. Grover had not been so sanguine about that as about the Colne site, because, doubtless, the amount of chalk was far smaller there. He would mention that

the sites suggested were by no means the only ones where such a supply could be got, and, if it were essential to have a chalk supply, there were places from which it could be obtained without the outcry being raised as to draining the water from the streams around. There were places where the water could be intercepted where it went into tidal water without doing any good. In his opinion Mr. GROVER was not quite right when he spoke of the supply being more or less independent of the springs running into the Thames. Very few people knew how much water was pumped out of the wells in the neighbourhood of London—there were probably 10,000,000 gallons a day got from private wells—and, as a matter of fact, at Grays and Purfleet there were some deep borings, and the deeper they were the salter was the water, so that it was quite clear the fresh water there could not flow out as it met with the salt water.

Coming to the general question of the London water supply, that was a question which should be approached in a very judicial spirit, and without party bias. He quite agreed with the last speaker that the question of waste was very important, but he would, in addition, bring forward a point which had not been alluded to in the discussion, and on which, he was sure, he should find himself at variance with most engineers, though not, perhaps, with all surveyors, and that was, the question of dual supply. Why should all the best water be used for various purposes for which other water would be quite good enough. There was no doubt that the present supply was a fairly good one, and, while the opponents of the existing system made a mistake in their excessive abuse of it, the advocates of it, on the other hand, were equally in error in their equally excessive praise of it. For his own part, as a Londoner, he thought that the time had come when the water of London should be in the hands of some public body, and should be improved,

but it should be taken from the present companies on principles in accordance with justice.

Mr. J. Lidiard (Visitor) said he would only point out the necessity for bringing the matter to a conclusion as soon as possible. It seemed that the inquiries that had been going on for more than seventy years into the supply of London water had resulted in very little. The object in view, in bringing the scheme to which Mr. Rickard had referred before Parliament, was to promote a settlement of the question without delay, and it had certainly had the effect of calling public attention to this matter.

Mr. Grover, in reply, said that in the short time which remained it would be quite impossible to answer all the objections which had been raised to various passages in his Paper. With regard to Mr. Bedells' remark about the sliding scale, he would only say that no doubt all were in favour of having a sliding scale, but first of all it was necessary to have a meter supply before a sliding scale could be arrived at, and, as he had said, he did not think a meter supply would be desirable. Next he would deal with the remarks of his old friend Dr. Evans, with whom he was in agreement on most points, but not on the question of the water supply of London (engineers and mill owners must always differ on this subject, he thought), but Dr. Evans' remarks were so valuable that he would dwell upon them with some particularity. Dr. Evans said that he differed from him (Mr. Grover) *toto cœlo*, but they both agreed upon the fact that the River Lea was practically used up by the water companies taking the flowing stream, and that consequently below the intake of the East London Company there was no flowing water. He had not proposed to drain off the water in the Colne, nor to touch the running stream, but to

use the subterranean water only. This question had been dealt with in a Paper read before the Institution of Civil Engineers in which this illustration was used by Dr. Evans:—"It was much the same as filling a cistern with "bits of stone and saying if you pump from the upper "surface you take the water out of the cistern, but if "you pump from the bottom of the cistern you do not "affect the level of the water in it." Now, his (Mr. Grover's) reply to that was, that anyone who has carried out a chalk well and stood over the boring rods, would comprehend that Dr. Evans' idea was a mistaken one; he had himself had a nail driven into the side of a well, in the morning, at the water level before the men began to work, and as they went on boring, suddenly the water would jump up in the well two or three inches above the level. That was an absolute proof that in going down through the chalk different levels of water were come to in the flints. He would answer Dr. Evans on his own ground, and give to the Meeting what he considered a "closer," so far as that question was concerned. The Colne Valley Water Company had decided to sink a second well at their works at Bushey, and, in spite of opposition, it was carried out by Mr. Bateman. Mr. W. Fox, engineer, was there, and the following is what he said about the well:—"Mr. Grover's "statement in regard to the theory of Dr. Evans about a "cistern filled with stones was pretty well illustrated at "Bushey, where pumping from one well lowered the water in "the well 20 or 30 feet deeper than it stood in the other. "If Dr. Evans' theory was correct, the water level in "both boreholes would be alike. That was shown to "a still greater extent in the old works of the Harrow "Waterworks Company, where there were two or three "wells in a space not larger than the theatre of this Institu-"tion; but pumping from one well did not affect the level of

" the water in the other." Mr. GROVER's answer was therefore found on Dr. EVANS' own ground at Watford. He should like, if he might be permitted, to repeat a story of a learned Chinaman, who came to this country, and was very much astonished at a great many things he saw. When he went back to China, and was asked to tell the thing at which he was most astonished, he said, "I went into a kitchen and " there I saw a woman draw out of one and the same wall " water and fire." She had turned on a water tap, and had also lit the gas. That was the position taken up by Dr. EVANS when he argued that there could not be two independent wells in the same rock.

With regard to the question of economy he quite agreed with Mr. RICKARDS that thirty gallons per head was too much for London to use, and, in nearly every case, his own companies had succeeded in keeping the supply down to something like seventeen or eighteen gallons, though there was a constant pressure, but it was to be borne in mind that all the fittings were new, and looked after much more than was the case in London. Mr. BURSTAL had made one observation as to his saying that only a small sum was paid for the water by the companies. That statement was true, notwithstanding that £18,000 a year was paid; for if that amount was divided, it would be found to give something like one-tenth part of a penny for every 1,000 gallons—a figure which seemed to him, Mr. GROVER, to be an infinitesimally small sum to pay for the water, bearing in mind that the water companies sell it afterwards for 7*d.* per 1,000 gallons.

Then, dealing with Mr. BURSTAL's statement as to the increase of the rateable value of London not being at the rate of £1,000,000 a year; that was taken as a round sum to deal with for the moment, by way of illustration only, not defining a particular rate. He agreed with Mr.

Stevenson's remark as to a supply of 22 gallons per head being sufficient.

He proposed to take any further supplemental supply from the north-west of London, from the Great Chiltern Hills, and from the south-west from the valleys below the great Box Range, these two districts having the largest springs which were known anywhere; and, if these sources were incorporated with the present supply, it would be possible to give 30 millions gallons per day extra without hurting anybody. When people talked about storage reservoirs it would be well to ask where they were to find a storage reservoir site in the Thames Valley. Let anyone look at the map, and he would see that there was no place where such a storage reservoir could be put. The true storage reservoir was that formed by nature, viz., the vast beds of flints in the chalk. He would not trouble the Meeting with further remarks, but trusted that the discussion would result in some good, and would help to elucidate the subject.

The Meeting then adjourned.

No. 307.

AT

THE ORDINARY GENERAL MEETING

Held on Monday, March 14th, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

A Discussion on the "Small Agricultural Holdings Bill," now before Parliament, was opened by

Mr. W. G. S. Rolleston (Fellow), who, in introducing the subject, said it would, perhaps, be convenient if he glanced very shortly indeed at the provisions of the Bill. Although most of those present were, no doubt, acquainted with them, it would be well to have the details fresh in their minds in discussing the subject.

In regard to the powers given under the Bill, the principal points were that a county council, being of opinion that there was a demand for small holdings for the labouring population, may acquire land for the purpose of persons resident in the county, who themselves must cultivate the holdings. "A small holding" was defined as exceeding one and not exceeding fifty acres in extent; or if exceeding fifty acres, the annual value for income-tax purposes was not to exceed £50.

The county council may divide and fence land, make roads, give water supply, drainage, &c., and erect buildings. The purchase-money of each holding to include cost of conveyance and incidental expenses. The purchaser to pay down one-fourth of the purchase-money, another fourth

to be secured by a perpetual quit rent, redeemable, however, at the option of the purchaser and the remaining half to be secured on the holding and repaid by half-yearly instalments extending over a term not exceeding 50 years. Such terminable annuity to be redeemable at any time.

The council may postpone for 5 years the payment of instalments in consideration of expenditure benefiting the holding by the purchaser. The council to guarantee the title to the purchaser. The council to make rules and regulations to guard, among other things, against a holding being let to persons incapable of properly cultivating, and otherwise for securing the proper cultivation of the holding. For 10 years after sale, or as long as any purchase-money remains unpaid, the holding to be cultivated by the holder, and not used for other purposes than agriculture, which is defined to include horticulture, any purpose of husbandry, inclusive of stock breeding and keeping, also poultry, bees, and the growing of fruit and vegetables. The holding not to be sub-divided or let without the consent of the council.

Not more than one dwelling house to be erected on a holding, and no house to be erected where the annual value is under £25 for income-tax purposes, unless the council consider it sufficient to support occupier and family in comfort.

Any dwelling house erected, to comply with sanitary regulations as laid down by the council.

The council may sell the holding if these conditions be broken, or, if the owner should die and it would become divided, they may then sell to one person.

The council may also determine a tenancy for breach of conditions.

Powers are given to the council to sell, let, or exchange, and erect buildings upon unsold or superfluous land. An important clause in the Bill provides that the council may

advance three-fourths of the purchase money to the tenant of a small holding who has agreed with his landlord for the purchase of same, when satisfied that the sale is *bonâ fide*, the title good, and the price reasonable; but they are not to acquire land except at a price at which they think all expenses incurred, connected with the matter, will be repaid out of the purchase-money if sold, or out of the rent if let; and the following is a very important provision indeed to ratepayers, viz., that they are not to act when the charge for the time being on a county rate, including the annual payments in respect of loans raised, is likely to exceed, in any one year, one penny in the £, and when the charge is equal, or nearly so, to that amount, no more land is to be dealt with until the charge has been decreased.

The rate of interest on money lent by the State to the council for the purposes of the Act is to be £3 2*s.* 6*d.* per cent., and the State may lend money at this rate. A council is also empowered to let holdings not exceeding 10 acres in extent, and to purchase land for the purpose.

These were the principal provisions of the Bill. Its great feature, however, was that it was a voluntary one, but it seemed to him that in the course of time it was almost certain to be made compulsory. He might take as a good instance of legislation, previous to this, the Agricultural Holdings Act of 1875, which was made compulsory in 1883, and he thought this Bill was almost certain, in the natural course of events, to follow the same precedent. The county council was the body under the Act to whom the powers were to be confided, which he thought was a wise provision. The larger and more important the body, the less liability there would be to corruption—or, not to use too strong a word, less influence of private interests and friendships, and less likelihood of local pressure being brought to bear.

In Part III. provisions were inserted which seemed to protect the ratepayer as far as it was possible to do so in a Bill of this sort. Of course, where an experiment was tried with public money, there must be risk of loss to the public, but the limit of such risk to 1*d.* in the £ on the county rate, per annum, kept it within the smallest compass.

The term *labouring population* was rather vague. The county council were to be satisfied that there was a demand for small holdings for the labouring population, but it was to be hoped that body would construe the expression liberally. All those who lived wholly or in part by manual labour should come within the term. There were thousands of people, such as blacksmiths, wheelwrights, publicans, village grocers, and other small tradesmen, to whom the possession of a small holding would be a welcome addition to their income. In all probability their children would be brought up on the land, and that would bring about one of the objects which the Bill aimed at, which was to increase the number of people who got their living from the cultivation of the soil. He was afraid that the labourer, pure and simple, would receive very little benefit from the Bill, under the purchase clause, at all events, for to purchase even 30 acres of land would require a good deal of capital. He had to pay down one-fourth, and he would then have to stock it. Without going into details, he thought this would be more than 99 out of every 100 labourers in this country would be able to do.

Now, the council were to guarantee the title to the purchaser, and it seemed to him a pity that such an opportunity of establishing a system of registration of title should be lost. The title was given free from every flaw or complication; but in 50 years' time, unless some such system were introduced, all this would be lost again. A very simple system of registration would suffice. The

county council's clerk or officials should keep a register, in which should be recorded the original ownership, description, transfers, debt still owing, &c., and plans showing situation, boundaries, &c.; and then, if the small holder wanted to sell, he would be able to go to the registry and sell his land, which would take him half a day and which could be done at a few shillings' expense, with the same ease with which he can now sell a cow or a pig. There was no provision for this in the Bill, and he thought it was a great pity now, when all land reformers were anxious to establish such a system (the title that would be created under this Bill being quite free from all complications), that such an opportunity should be lost of establishing it. He also thought that, having regard to the regulations as to the cultivation by the owner of the holding—sub-division and other things—it was a pity that these should only remain in force for 10 years from the date of the sale, or as long as the purchase-money remained unpaid. In the course of time, when all these rules affecting small holdings lapsed, the holding, he was afraid, would very soon cease to exist as a small holding. At present, for 10 years after the sale, or as long as the purchase-money remained unpaid, the man must cultivate it himself and use it for the purpose of agriculture, but after that he was to do with it as he liked. Very probably, in the case of a small holding when freed from these conditions, the original holder might die and it might be divided amongst his children, and in the course of time there might be a further sub-division. Was it not one of the greatest causes of the wretchedness and misery existing in Ireland, that the holdings were divided and sub-divided until they almost reached a vanishing point? It was a pity that these regulations should not continue in force for all time.

He thought also that the small holder should be forbidden to raise money on his holding. There would be a great temptation to him to do so at the first opportunity, say, for instance, after a couple of bad seasons, and when once he got into the hands of money-lenders and solicitors —with all due deference to those gentlemen—he was afraid the profits he would make would be much encroached upon.

There seemed to be no practical use in the £25 annual value limit as to the building of dwelling houses. Such large powers were left to the discretion of the council under the Bill, that it almost seemed a pity that this matter was not left to their discretion as well. A hard-and-fast rule of this sort was sure in some cases and circumstances to be a hardship, and to be undesirable.

Part II. of the Bill was very important. It introduced the principle, he thought, of the Ashbourne Acts into England, except that no Land Court was provided. This arrangement would generally be of use to small people who wished to purchase their holdings. They would be enabled to borrow money from the State at a lower rate than from a private individual, and an easy method was provided for the paying off the capital. If anything, the Bill seemed to err on the side of limiting too much the size of the holding. If let, the value for income-tax purposes on the rack rent, must not exceed £50 a year. In all probability the average size of the holding would not exceed 30 acres under that clause, and that was a very small area to maintain a man and his family in comfort, except where it was cultivated as a market garden. The provisions as to letting land to labourers were very useful, and would most likely be much used in the future. The whole 10 acres sanctioned were not likely to be often applied for, but many men would be able to rent two or three acres of land on which to keep

a cow, and would derive benefit from it. He did not think the whole amount sanctioned was likely to be taken up, because 10 acres was too much for a man to have when he was working for a farmer as well, while it was not enough to maintain him entirely ; but if he had three or four acres of grass land, which he could rent not very far from his house, it would in many cases be of use. There was one matter which should be incorporated in the Bill: he thought, viz., that as questions of great importance were left to the decision of the county council from time to time, they should have an expert's opinion in many cases as to the desirability of their transactions. A clause should be incorporated in the Bill compelling the council to employ a professional adviser, who should give his opinion upon each transaction.

No provision was made in the Bill, as was the case in the Bill brought in by Mr. Jesse Collings, for the letting or selling larger quantities of land than those authorised, to associations of individuals farming on co-operative principles. He thought that was a blot on the Bill, which could, however, be easily amended, and would not interfere with the principle. The tendency of farming in the future would be more in the direction of co-operation, as in the case of everything else, and encouragement should, he thought, be given to that tendency.

The Bill was hardly stringent enough in its provisions for ensuring the proper cultivation of a holding. The council were told to make rules for this purpose, but it seemed to him it would be better to give them a definite clause in the Bill authorising them to take possession of a holding which was being neglected and badly cultivated. It was easy for a man who might be more or less a scamp to acquire a holding, and if he happened to get some good land, on which he could grow potatoes, for

instance, or other crops, for a few years, he could sell everything off for four or five years, and having made a large sum, decamp and leave the county council with a property very seriously depreciated in value. He thought that the county council, as was the case in Mr. Jesse Collings' Bill, should be empowered to compulsorily retake possession of a holding which might have enormously increased in value owing to building operations, a new railway, or other causes, paying the owner, of course, on a liberal scale for all improvements made, the original cost of the holding, the tenant-right, allowance for compulsory sale, &c., and providing him, should he wish, with another suitable holding. It seemed to him only fair that the ratepayer, having the risk of starting the man in business, should receive the benefit of the unearned increment.

One of the effects of the Bill which should not be lost sight of, would probably be that a number of sitting tenants would be dispossessed of their holdings, and consequently the demand for land in the country would be increased. Some of the land that was bought by the county council, in pursuance of the powers sought to be acquired, would be occupied and farmed at the time it was bought. Therefore a certain number of sitting tenant farmers would have to be given notice to quit, and that would increase the demand for land, he thought, and perhaps by that means cause some of the land in the country to let which was at present in hand. One of the objects of the Bill would, probably, therefore be attained, which was to settle a greater number of people on the land.

The Bill admitted the principle that it was wise and expedient for the State to risk public moneys for the sake of starting a particular class in business, and, though he did not think there was much to recommend the Bill from a political-economy point of view, he thought it was socially

and politically expedient, and that it was worth while to run the risk to attain an end which was admitted by people of all political creeds to be worthy of achievement.

It would at any rate, he thought, have the effect of keeping a certain number of people out of the towns who would, probably, otherwise migrate to them. It would increase the number of owners of land, which was a very desirable object to attain if possible. When once a man became the owner of land he had a direct stake in the country, and was more likely to well weigh the effect of his vote when an election came. He thought, also, that it would benefit the farmer to some extent, in this respect, that the owners of these small holdings and their families would probably cultivate them; but as their whole time would not, perhaps, be so employed, there would, consequently, be more casual labour available in the country. It was now the case in many counties that when the farmers wanted a few extra men at harvest time, or when they had more than usual to do, it was very often difficult to get labour, but, if this Bill were taken advantage of, it would, to a very great extent, he thought, increase the supply of agricultural labour. It would give the labourer a chance of getting access to the land, it would give him an inducement to thrift, and it would encourage him to persevere.

He thought the Bill was very carefully drawn, and was the result of mature consideration, and that the risk of loss to the public was reduced to the lowest possible point. It was a ratepayers' Bill, inasmuch as it was entirely consistent with their interests. He considered that everyone who was interested in the land question should do his utmost to make the Bill as good and efficient a measure as was possible; and if it should once be passed into law, to give it a fair and very patient trial.

While giving a general hearty approval to the Bill, he

had mentioned the chief points on which he should like to see it amended in Committee. He was well aware that no Bill could possibly be devised by the ingenuity of man that would satisfy everyone, or that would not be open to criticism on some points. He was not sanguine enough, or foolish enough, to imagine that this Bill would bring about a return of universal prosperity, or a great revolution in the conditions affecting agriculture in this country; but he thought the main provisions of the Bill were drawn in the true interests of the rural population, and that it was a genuine attempt to achieve a great benefit, by rooting this population more securely to the soil in the future than it had been in the immediate past.

Mr. M. Jeans (Fellow) said he thought the first question to be considered was, What was the essential object of the Bill? and the next, Was the Bill calculated to carry out that object?

The first clause of the Bill, he thought, showed very clearly what its object was. It began: "If the council of "any county are of opinion that there is such a demand "for small holdings for the labouring population in their "county"; and in those words seemed to lie the gist of the whole scheme—that there might be small holdings provided for the "labouring population" of the county district.

But it seemed to him that, having got so far, the Bill immediately proceeded in an opposite direction, for further on in the same clause it said, "the council may, subject to "the provisions of this Act, acquire any suitable land for "the purpose of providing small holdings for persons who "are resident in the county, who desire to buy, and will "themselves cultivate the holdings."

But these seemed to him to provide for an entirely different class of persons from those to whom the Bill was

avowedly intended to apply. He thought it was the duty of practical men like the Members of the Institution to discuss the subject in a practical manner; and his own experience taught him that it would be very difficult to find a labourer who had at his command even the one-fourth of the purchase-money which this Bill stipulated that he should find before he was able to purchase any land. His belief was that there was not one agricultural labourer in a hundred who was in a position to find even £100, and it seemed that, under the provisions of this Bill, nothing less than £100 could be of any use. The purchaser had to find one-fourth of the purchase-money, and, in addition, must start the farm, and must have some money to go on with; and it was apparent to any practical man that, without a capital of from £5 to £10 an acre, it was impossible to work a farm properly. If that applied to large holdings, then, surely, small holdings of this description required even more outlay in proportion. It appeared to him that the Bill overshot the mark, and that the class supposed to be benefited would be the very last who would be able to avail themselves of the facilities which it was supposed to offer them.

The Bill certainly provided that if it were impossible for a man to purchase, he might rent from the county council land not exceeding 10 acres in extent, but it was difficult to imagine that, when land was certainly not paying, men could be found, without capital, whose time would be fully occupied in cultivating this insufficient holding, and out of its profits able to accumulate, within a reasonable time, sufficient capital to buy the holding later on. The suggestion appeared to him to be utterly absurd.

By this Bill very great power would be put into the hands of the county council, but, speaking as a member of a county council, he looked with considerable apprehension at the amount of work continually being placed on those

bodies. If members of county councils were to be called on to undertake work of this kind they would have very little time left for anything else. The Bill gave power to any single elector to call the attention of the county council to the necessity of putting the Act into operation, and the county council, if the application were *bonâ-fide*, were bound to entertain it. The result would be that throughout the country the councils would be constantly bothered with these applications, and inquiry into them would take up the greater part of their time; whether with any practical result remained to be seen.

A nominal owner having acquired a small holding under the terms of this Bill, it seemed to him the measure imposed such restrictions upon him, and placed him in such a position, that he was practically not the owner at all, and would not be able to deal with his so-called property in the same way as other people who invested their savings in land. Supposing the man died, or was unable to find a purchaser for this land, the county council had power to sell the land themselves; and no doubt they would proceed to put it into the market, and would have to sell it for what it would fetch. Thus the man's earnings, and what his family might fairly have expected to receive out of his estate, would be entirely lost.

Then, again, the proposal to raise the money upon the security of the county rate seemed to him to be altogether extravagant. It was unfair that the public should be thus burdened for the sake of a single class. It appeared to him that, if money must be found for what was admitted by the promoters of the Bill to be only an experiment, it should come out of the Imperial exchequer, and not out of the county rates. The landowners were already constantly having placed upon them fresh burdens, in addition to those which they found it very difficult to bear, and any new

legislation should, in fairness, aim rather at lightening than increasing the load, and enabling them to carry on the working of the land less expensively to themselves and more profitably to their tenants. But, instead of that, it was proposed to carry out this experiment by placing on them a fresh burden. It was supposed that this would not be greater than a penny in the pound, at any time, under the Act; but what possible security was there that it would never be more? It seemed to him that the county council, in acquiring a considerable quantity of land, and expending money on buildings and drainage, and so on, would necessarily be incurring a large expense, with no assurance that a penny in the pound would cover it.

But, if the necessary fund must come out of the rates at all, it should come out of the local rate, and not out of the county rate. The Act could not be applied all over the county at once, but must be put into operation in one particular place at a time, while the whole of the county would have to pay for an experiment the cost of which, if carried out at all, should be defrayed by the district supposed to be benefited by it.

In conclusion, he wished most forcibly to remind the Meeting of the well-known fact that land did not now pay the occupier at all. During the last season he believed it was impossible to point to any purely agricultural property which was at all remunerative to the occupier. These were strong words, he knew, but he thought that most practical men would agree with him that, during the last year at any rate, very few farmers could produce a balance sheet to show any profit. It had been an exceptionally bad season, he admitted, but as regards Wiltshire, parts of Hampshire, and Berkshire—purely agricultural country, and mostly corn district—he was sure that he had not overstated the case, and he thought, therefore, that the bringing

forward and promoting of a Bill of this kind was simply asking the labourer to participate in an undertaking which was certain to be a matter of loss rather than of profit.

Mr. H. H. Smith (Fellow) said he must, in the first place, congratulate those interested in this great question upon the names to be found upon the back of the Bill. He did not think that in the House of Commons three more practical men could be found than Mr. Chaplin, Sir Michael Hicks-Beach, and Mr. Long, and it was always most important that a Bill of this sort should be prepared and brought in by men who had studied the subject in a practical manner, and had not been guided entirely by what they had heard and read.

He had on several occasions expressed himself in that room strongly in favour of an extension of the number of landowners in England and Wales. Some time ago he certainly was under the impression that there was a tendency on the part of the population to buy land, but he must admit that he had been rather disappointed to find that his later experience seemed to point to an opposite conclusion. There was not evident any great disposition or ability to buy land, and, much as he should like to see a large number of small owners settled on their estates, leading thrifty and prosperous lives, he must confess that his experience up to the present time was that the area on which the application of the principle of small holdings could be successfully applied was very limited. For instance, the system would, he feared, never prosper on the large chalk formations. Where there was a natural adaptability of land to small holdings there might be found men willing to buy; but the system of small holdings could not be forced upon the country.

Some time ago a company was promoted by Lord

Wantage which had tried several experiments in the way of small holdings, but he was sorry to say that it had not up to the present time proved a success. This company made an application to buy a farm in the neighbourhood of Chippenham, from a client of his own, who, being always willing to promote the welfare of the small agricultural holders and labourers, at once acceded to their request and sold them the farm. It was a neighbourhood particularly well adapted to small holdings, and the farm, when bought, was suitably laid out; but even then there was not found any very great disposition to buy. A good deal of the land was let, but the remainder was not taken up. Hardly any of it was sold, and altogether the experiment had not been quite successful. A further experiment in the neighbourhood of Lambourne was, he was sorry to say, an entire failure. For the economic production of wheat, mutton, and wool—the chief factors of agricultural success—large holdings were, no doubt, best and most successful, and would naturally produce larger returns in proportion to the expenditure than was possible in the case of small holdings.

With regard to the question of rent, it was impossible for a small holding to be let at the same rent per acre as a large one. Modern legislators would persist in looking at the matter from the point of view of the actual value of the land by itself, without any of that equipment which was absolutely necessary in order to farm it. For instance, take the typical 20 acres, and suppose it to be purchased at £30 an acre (£600). Even in these depressed times, in a locality adapted to small holdings, he did not think it could be said that such a price would buy the very best, but only second-class land. The cost of erecting a house and farm buildings would be, say, £300, which was the lowest figure at which it could possibly be put. This brought the first cost to £900. Of this the purchaser was to pay down one-fourth, or £225.

There would be left, as a perpetual rent-charge, the interest on £225, and £450 to be paid off in not more than 50 years at a rent-charge covering principal and interest. Now, interest on the sum paid down at £4 per cent. = £9. The permanent rent-charge on £225 at 3⅛ per cent., being the lowest rate at which the county council was empowered to borrow, = £7 0*s.* 8*d.* The rent-charge for 50 years, redeemable by half-yearly instalments at 3⅛ per cent. = £17 17*s.* 9*d.*, making a total rent-charge of £33 18*s.* 5*d.*, nothing being allowed for the legal and other expenses of the county council in connection with the purchase and sale, which must be added to the purchase-money. If the principal were paid by equal instalments the first half-yearly payment would be, roughly speaking, £11 10*s.* There would thus, for a farm of 20 acres, be a rental of £33 18*s.* 5*d.* But, having regard to the price of the produce—wheat 16*s.* a sack, barley 28*s.* to 30*s.* a quarter, butter 10*d.* a lb., and so on—it seemed very doubtful whether a small farmer could make a living for himself and family from such a holding, considering that in addition he would have to find working capital and live for the first year with no income.

It was a serious question to his mind whether he would advise an agricultural labourer to exchange his 14*s.* a week, regularly paid every Saturday night, his allotment of land and cottage at a small rent, for that position. Thus far the labourer had not shown much disposition to rise to the occasion, nor did he think he would do so now to any great extent. No doubt some would try the experiment, and a few by great exertion and thrift would succeed; but the general run of agricultural labourers, judging from what he had seen of them during the last few years, were not likely to succeed under the conditions proposed, and would not care to undertake the tremendous work and privation entailed in order to acquire

what was held out to them by the Bill. There were, of course, a certain number of men—such as small tradespeople and others, who had made money in business—who would avail themselves of the measure, although they would hardly like to depend upon such a holding as a means of livelihood, and there were others to whom such holdings might be of use in connection with a small business; but all these men were capitalists, and could, to a great extent, get what they wanted even at the present time. The object of the Bill seemed to be to supply the means of getting a small holding with the view of making a living, and on this point he was rather sceptical of its success.

He was looking, perhaps, rather at the gloomy side of the question, but it was really a serious matter for the country that there should not be more people engaged in cultivating the soil. The rural districts were rapidly becoming deserted, and the great problem was how to induce the population to remain on or to return to the soil. He thought that Members of the Institution and the public generally ought certainly to welcome the Bill as, undoubtedly, a step in the right direction. Its promoters were actuated by the very best of motives, and everyone who had the question at heart should be ready to give the Bill a fair trial and to heartily wish it success.

It had been said by Mr. Jeans that it was impossible for the agricultural labourer to make a start, because he could not get a hundred pounds together. Possibly, in Mr. Jeans' district, on the chalk formation, that might be the case, but where he (Mr. Smith) lived—not many miles distant, but down in the vale, and, perhaps, in rather a richer country—his experience was entirely different from Mr. Jeans'. He could only say that a large proportion of the tenant-farmers in Wiltshire farming from 100 to 150 acres, began as agricultural labourers. During the debate on the

question of allotments in the Wiltshire county council, he remembered a gentleman saying that the life of an agricultural labourer was "wearying, dull, monotonous, and hope-"less." It was, no doubt, a dull life, but to men of high education and refinement, it seemed a great deal duller than it really was: a man must be given some credit for taking an interest in the work he was carrying out. It might be as much pleasure to the agricultural labourer to turn out his team with neatness, and to make his furrows with mathematical accuracy, as for a man of education to turn out a literary or artistic work. It did, perhaps, seem a monotonous life, but as to its being hopeless he entirely differed from what had been said. There was, probably, no business in the world where a man could so quickly raise himself from the lowest ranks, he would not say right to the top, but, at all events, to the middle step of the ladder, as in the position of an agricultural labourer; and that this was so, was shown by the large number of tenant-farmers who began life as agricultural labourers.

Mr. J. W. Kemsley (Fellow) said the subject under discussion naturally divided itself into two parts, the first part having reference to small holdings, and the second to loans by county councils to tenants purchasing such small holdings, and he thought they ought not to mix the two subjects.

He confessed that during late years he had seen so many large farmers go to the wall, while little men who did their own labour held their own, that he had come to the conclusion that it was a mistake to hastily assume there was no room for the small holder. He had heard it objected that if small holdings were encouraged the labour market would be spoiled; but he did not hold that view at all. It was instructive to observe how the system worked where small holders were most prevalent. Only very

recently he heard of quite a little colony of them in Essex, on Tiptree Heath—a locality well known in the agricultural world. He was told by a large farmer in the locality that the result of the system was that the larger farmers could more readily get a larger number of labourers at special times. The small holders only did piecework and would only work when they could earn a good bit of money, but they came in for the harvesting and for many jobs at busy times. He had a friend who owned a small estate in Hampshire, between the New Forest and Southampton, nearly the whole of which was let out in plots of 10 or 12 acres, and was so let to great advantage. It must be admitted that in that case the industry of bringing wood from the New Forest to Southampton supplemented the profits of the small agriculturists.

It was, he thought, the late Mr. John Bright, who in his most Radical days, characterised a proposal to multiply the number of small holdings as the most Conservative of measures, and he agreed that the more small holders there were the better it would be for the upholders of law and order if one could judge from the example of our French neighbours. But it was one thing to wish to make a man a small holder and another thing to make him one at another's expense, and that he regarded as a weak point in this Bill. He thought the gentlemen who had preceded him had taken the Bill a great deal too seriously. One could not imagine it would make any vital alteration in the agriculture of this country. The Bill would be quite safe in the hands of our present county councillors, but one could imagine it might have the tendency to turn our county councils into political battlefields, for in certain hands it was quite conceivable that the Bill might be made a very fruitful source of political agitation with reference to the return of county councillors.

Why was a man who by paying a proportion of the purchase-money had acquired a £25 per annum holding forbidden to put a house on it? If he (Mr. KEMSLEY) were the mortgagee, as the county council would be, and had lent £300 and the mortgagor had found £100, nothing would delight him so much as to see him building on the land. He supposed the promoters of the Bill had a wholesome dread of congestion, and looked at Ireland; but he thought there was little danger of congestion in this country, and certainly not in his (Mr. KEMSLEY's) county.

By the 10th section the county council was to find three-fourths of the purchase-money, provided the price was reasonable, but no provision appeared to be made for obtaining the opinion of an expert, either a Member of the Institution or otherwise, as to what was a reasonable price. It was very necessary that this should be done, or much of the county council money would be inevitably wasted.

On the whole, he thought, from the working of the Allotments Act, that the indirect benefit from the Bill would be more apparent than any direct good it might effect. There was already power to obtain allotments where there was a demand for them, but in how many cases had the local authority put the Allotment Act in force? He knew of none; but yet he contended that the Act had done much good. He himself had thought little about allotments until the Allotment Act was passed, but since that time some of his neighbours had hired from him at cost price a piece of land which was at present let in some 20 or 30 allotments. He now enjoyed the luxury of feeling in some sort a benefactor to the public in having given up those few acres, and it was a pleasure to see how the land was appreciated and cultivated; but if such an arrangement was made anything but a private business transaction, and the county council were empowered or compelled to step in

and spend the county rates, a different complexion was put upon the matter. He did not approve of money being found by one small ratepayer and spent by a public body for the benefit of another, although he would be very glad if by any reasonable means the number of small owners could be increased under such conditions as would render the holders prosperous and contented, and he would welcome any Bill which aimed to attain that end as, in the best and non-political sense of the word, a conservative measure for the true welfare of the country.

Mr. T. Chatfeild Clarke (Fellow) said he must congratulate the Meeting on the tone of their discussion of this subject. The opening speech, while critical, was fully sympathetic with the one great object of the Bill, which was to show how the agricultural classes could be raised from the condition into which so many of them had now drifted.

He did not entirely agree with the last speaker's remarks, nor did he consider them quite logical. If the object sought was to get the labourers back on the land, if it were felt that this was a point of vital importance in view of the general economic conditions of the country and of the welfare of the population as a whole—then it was certainly a sound argument, whether socially or financially, that everybody should contribute by a system of rating or taxation towards that measure. It all depended on whether the basis on which the argument was founded was a sound one. He supposed the members whose names appeared upon the Bill had thought, and had thought rightly, that it was desirable, above all things, to get the labourers back upon the land, and, having that end in view, the only practical or practicable method of attaining it was by some system of advancing money. It appeared to him that, in

this case at all events, the end completely justified the means.

To look very briefly at the main principles of the Bill. There were two methods by which the small holder might obtain land: he might either buy it or hire it. His belief was—though he spoke with less practical knowledge than many in the room—that the provisions of the Bill would not be at all widely taken advantage of for the purposes of purchase, but he believed it would be of considerable use in respect of letting. He did not see why a limitation should be put at 10 acres. Some political capital had been made out of Mr. COLLINGS' "three acres and a cow," a few years ago, but everyone acquainted with agriculture knew that a man could not obtain his whole livelihood by the cultivation of such an extent of land, but that it was only as a mere adjunct to his other work that the two or three acres were of use to him. If a man were to live by it he imagined that 10 acres would generally be insufficient, and, for his part, he could see no ground for the limitation proposed by the Bill.

But did not the whole question, from a practical point of view, turn on the point whether there should be compulsion in the application of the Act or not? Was not any discussion of the matter merely like fighting a sort of spectral battle unless they faced this question of compulsion?

In his opinion the Bill would be little better than a dead letter throughout the country unless some provisions for compulsory power of purchase were included in it, for, without this, it gave to the would-be small holder very little more chance of obtaining land than he had at present. He did not feel at all sure in his own mind that the Bill, if it became an Act, would be much used. He thought, however, there were some parts of the country where the working agricultural poor had the means of borrowing money for

the purchase of land for small holdings, and that the Act might therefore be operative as to its purchasing clauses to a very limited extent.

The last speaker had referred to one of the evident defects in the Bill, viz., that unless the land were of the annual value of £25 there were to be no buildings erected. That, he thought, was a clause that all those practically acquainted with agriculture would agree should be altered, and would say that, in many cases, a cottage or other small buildings might be erected without harm and with obvious advantage.

The Bill referred to the Lands Clauses Act, or a certain portion of it; but would it not be very expensive and undesirable to adopt the provisions of that Act? The Bill further struck him as being of a very complex character, and the continual references to other Acts of Parliament made it difficult to understand without a thorough acquaintance with those Acts. It was also insisted by the opener of the discussion that the land ought at once to be subject to a proper registration of title which should hold good for all time. These were, of course, all subordinate questions; but the main point which he wished to impress on the Meeting, and which must be faced by surveyors, was whether the powers under the Bill should be made compulsory or not. If the opinion of the Meeting was that a public body had no right to take land away from a man unless he were willing to sell, although it was obvious that a distinct advantage to the neighbourhood, as a whole, would arise from the development of that land in small holdings, it was for them to say so; but, without expressing a stronger view on the point than he had done, he would leave it to the Members to consider whether the Act, in order to attain the full measure of usefulness evidently aimed at by its framers, should not have inserted in it a

clause which would render compulsory the purchasing powers conferred by it on the county councils.

Mr. W. Wright (Fellow) said that the Bill, the clauses of which had been so ably summarised by the opener of the debate, was obviously of an entirely experimental character in many respects; and he thought its provisions would not be very extensively applied in this country. Great objection would, no doubt, be made to the burden of the cost being placed upon the rates. It would, naturally, be contended that, as the scheme was of a national character, the cost should be defrayed out of the Imperial Exchequer, and not contributed in the form of rates by a small community.. To take the case of a man at present occupying a holding who, by his own industry and perseverance, was now trying to get a living upon it; it would seem very hard on such a man that he had to contribute and pay taxes for the sake of seeing an experiment tried by his neighbour, whose only reason for not being in the same position as himself was that he had been, perhaps, less industrious or less thrifty.

Another objection had been urged by one of the speakers, who was, like himself, a county councillor, to the provision by which one individual in one place, could set the machinery of the Act in motion. With this objection he entirely agreed, for it was obvious how prominent an individual could make himself when agitating on a matter of this sort, by raising a clamour and outcry for something wholly impracticable and unreasonable, and it was easy to see that the opportunity of such prominence would be very tempting to many persons for reasons political or otherwise. A speculative builder could now, for instance, buy a piece of land and cram it full of houses without giving them a yard of ground, in order to get as much rent as he could, and

then, having done that, could immediately demand the seizure of the first piece of land belonging to somebody else and clamour for allotments, simply because, when his own houses got allotments and gardens, he could let them more readily and at a higher rent.

He had also a great objection to the provision, which he hoped would be altered, which limited the occupation of a person, other than an owner, to 10 acres. It was simply impossible for any working man to get a living for himself and family on such a small area of land.

A good deal was, certainly, to be said in favour of the Bill. The first object, to raise the social position of the agricultural labourer, was one with which all present must heartily sympathise. Another feature of the Bill which, he thought, made it much preferable to that brought in some time ago by Mr. Jesse Collings, was that there was no compulsory power for the acquisition of land.

Another good point was, as one speaker had pointed out, that there was a clause preventing any sub-division. It must be considered a sensible and fair proposal of the Government that, when an owner was ready to sell and a small purchaser was anxious to buy, but could not find the money, a provision should be made to find his purchase-money at a low rate of interest. It had been said that one object of this Bill was to check the flow of the agricultural population from the villages into the towns, but he thought that those who looked for that result were doomed to disappointment.

He did not think it was the higher wages in the towns that attracted the people from the villages, for, when the higher rent and other things in the town were taken into account and compared with the cost of living in the villages, the difference would be very little. The much greater attractions in the towns, the Saturday half-holiday,

having the Sunday entirely to themselves, the amusements, theatres, music halls, or lectures, all these were inducements which tended to take people from the villages to the towns far more than any difficulty in getting land. He thought, if the lives of people in the villages could be made more attractive, and if they could be provided with much better cottages than at present, with, say, quarter of an acre of land round or close to them, it would tend far more to keep them in the villages and in the country than any offer of land purchased out of state or county funds. The first important thing was to provide good cottages, and if they had those they were far more likely to stay in the country for that reason than for the sake of having a few acres of bare land, perhaps at some distance away from their present wretched dwellings. The reason why good cottages were not placed in villages was, no doubt, that they could not be built at a cost upon which the agricultural labourer could afford to pay interest in the shape of rent; but it would not be impossible to formulate a scale on which a local authority could borrow money to erect cottages under certain conditions. A certain superficial area, a definite amount of cubical space accommodation, must be provided for, with, for every pair of cottages, say, not less than half an acre of clear garden ground, or to every block of four cottages not less than one acre round it. He believed, if such a scheme could be carried out, the people in the villages would remain there.

He could not help thinking it a somewhat shortsighted policy to provide the land before the people who had the land had good houses. He believed that when they had good houses and cottages the land possibly might follow. He had considerable experience in small holdings in several counties, and had found them not always such a complete success as they were popularly supposed to be. He had

known many instances of tenants holding, perhaps, 30 or 40 acres, or less, who had brought up a family and reared them and did well, and made a good living for several years; but when the daughters began to leave or get married, and the sons one by one went off into situations, the old people were left by themselves, and their prosperity then generally declined, for they could not look after the land themselves, and the holding was too small to employ independent labour on it.

He did not think, looking at this Bill altogether, that it would ever be taken much advantage of by the agricultural labourers, although it might be used by jobbers and small tradesmen as an adjunct and auxiliary to their business.

Mr. H. H. Smith asked permission to mention one matter which he had overlooked in making his previous remarks. Under Clause 7, sub-section 4, of the Bill, the council might resell the holding, either subject to the charge in respect of the purchase-money, or either wholly or partially free from such charge; and, in either case, the provisions of the Act, in respect of the purchase-money, should apply in like manner as if the sale were the first sale of a small holding. He did not quite see what considerations were to determine the price, or whether the holding was to be put up and sold for what it would fetch. He confessed he did not see anything in the Bill, as it stood, that dealt with the question whether the executors or representatives of the person who sold were to fix a reserved price, or the county council themselves. He thought it desirable that a reserve price should be put, or the property of the ratepayers might be sold for whatever it happened to fetch.

Mr. J. Douglas Walker, Q.C. (Associate), said he had come to the Meeting to learn something from the practical

experience of those who had to deal with land, and he was glad to find the opinion he had already formed on the matter fully confirmed by the remarks of previous speakers. One Member, after referring approvingly to the names of the promoters of the Bill, proceeded to point out, with irresistible logic, that it was impossible the Bill could succeed, and that in the very county for which Mr. Long was a member it was impossible that labourers could take land under this Bill; while another speaker stigmatised the Bill as not a serious one. He (Mr. Walker), as one practising the law, regarded it as a Bill to enable county councils to job in land at the expense of the ratepayers, with a probability of loss. He felt no hesitation in saying that it was wrong in principle and badly devised. The Bill made a mistake in attempting to deal with the acquisition of land by labourers on the basis of purchase. The only way by which a labourer could successfully hold land was by renting it. The Bill contemplated letting in only two cases; one was where (Clause 3, sub-section 2) a person was unable to buy but would be able, if permitted, to occupy in the first instance.

But he would ask any man of sense, accustomed to deal with land, what prospect had a labourer who could not pay the amount necessary on purchase of one-fourth of the purchase-money of being able, out of the profits of the soil, to pay rent and instalments of the purchase-money as well?

The second case was under Section 8, where the county council were authorised to let land acquired by them, but which turned out to be not needed or unsuitable for small holdings, in other words, bad bargains.

Therefore, the real object of the Bill was, undoubtedly, to enable the labourer to buy the land, which he ventured to think was a mistake, not only on the ground that the labourer was not possessed of means sufficient to buy land and enable him to cultivate it properly, but also on the ground that under

the Bill a man could buy the land and sell it at a profit which certainly ought to belong to the ratepayers who originally found the money. A labourer might buy land under the terms of this Act, subject to the condition that no dwelling-house was to be erected on it. Consequently, the price to him would not be of building land, but of agricultural land. He would pay for it with money found by the ratepayers, and at the end of ten years, according to the Bill, if he had paid the balance of the purchase-money, the condition ceased to exist, and there was nothing to prevent his selling it to a jobbing builder at the price of building land. Thus he would get profit which ought to go to the ratepayers who advanced him the money, and the land ceased to be available for the purposes of the Bill. Surely that, by itself, was enough to condemn the Bill.

Under Sub-section 2 the council were given the opportunity of selling the land to somebody else, but no means were provided in the Bill by which the land was to be conveyed to the purchaser. The draughtsman, who had, he thought, copied that section from an Irish Act, had left out the very provision which was necessary to make the scheme workable.

Mr. D. Watney (Fellow) said that some of the speakers seemed to have an idea that the Bill was promoted in the interests of the publican and jobber, but the very first clause of the Bill said distinctly it was "for the labouring population." He could scarcely agree with Mr. Chatfeild Clarke in the very gloomy view he took of the present social position of the agricultural labourer, and, in reference to Mr. Wright's remark that the cottages ought to be better, his own experience was that the cottages were far better than they used to be, and that, instead of the agricultural labourer sinking, he had risen, and, in fact, had been for

the last fifteen or twenty years much better off than the small farmer.

He agreed with a previous speaker that it was a great mistake to try and put the agricultural labourers on to the land and make them stop there, whether they found it answer their purpose or not. No means appeared to be provided by the Bill by which the agricultural labourer, when raised into the position of a small holder, could get out of his bargain. He was bound hand and foot, and he could not get rid of his holding by letting. He was sure the labourers would never be induced to take land unless they had the power to determine the tenancy at any time and to receive the value of the improvements (whatever they might be) in cash. It was obvious that no one would tie himself on any other terms.

He had made a calculation, somewhat similar to Mr. Herbert Smith's, as to purchase, on the supposition that a man purchased 10 acres, at £40 per acre = £400;

	£	s.	d.
£100, or 25 % to be paid down at 4 % -	4	0	0
£100 perpetual rent-charge at 4 % - -	4	0	0
£200 payable by half-yearly instalments, with interest at 3½ per cent. in 50 years, is equal to £4 5s. 3d. per cent. - - -	8	10	6
	16	10	6
Rates, say 3s. in £1, or 4s. 6d. per acre -	2	5	0
	£18	15	6

or a yearly charge for rent and rates on the 10 acres of £1 17s. 6d. per acre; but inasmuch as there would be much waste by sub-division, and by roads, fences, &c., there would not be more than 9 acres available for cultivation, and the yearly payments for rent and rates would then be at the rate

of 42*s.* per acre, without adding anything for the ordinary valuation already paid to the outgoing tenant.

Looking at these figures, it seemed to him that it was absurd to talk of compulsion when so much land could be obtained at the present time, and any landowner would only be too glad to let ordinary land to a solvent or state-aided tenant at much lower rates.

It seemed to him a great question whether, if the Bill passed, it would lead to any good result, although he quite sympathised with the object its promoters had in view; it would, however, if acted upon, have a serious effect on the rates, for the county councils were to be the buyers and were to be entrusted with very large and novel powers, even to farming the land they purchased unless or until they could make arrangements to sell, but all was to be done with the ratepayers' money, and there was some ground for fear that the penny in the pound, like the School Board Rate, would go on growing and growing till it reached a sum out of all proportion to that at which the promoters of the Bill had so confidingly fixed it.

Mr. C. Oakley (Fellow) said he rose to perform the pleasant duty of proposing a vote of thanks to Mr. Rolleston, for bringing this interesting subject under notice. It had led to a very good discussion, and he was sure all would agree with him that a vote of thanks should be accorded to him for having taken the trouble to bring the matter forward.

He would like to say a few words on the subject generally. He agreed with a previous speaker that the objects of the Bill were deserving of support and very important. Its two chief objects, he presumed, were, one to improve and raise the condition of the labouring classes, and the other to stop, if possible, the great flow that

had taken place for some years of the labouring classes from the country to the towns, and to induce some of those classes to return to the country. With those objects Members present must all sympathise, and as practical men, surveyors and land-agents, they should do all they could to promote any sound Bill that was likely to effect either or both of those objects. But he must say, as to the Bill itself, he had very little expectation that it would produce any serious or important result in either of those two directions.

He thought the first consideration was—in whose behalf was the measure proposed? The question was raised by the 1st clause of the Bill, which began, "If the council " of any county are of opinion that there is such a demand " for small holdings for the *labouring population*," &c., and then went on to say that "the council may provide " small holdings for *persons* who are resident in the country " and desire to buy," &c. It mentioned first the "labouring " population." That phrase was not repeated at the end of Clause 1, but was replaced by the word "persons," which was a very vague expression.

Some of the speakers mentioned other classes—tradesmen, dealers, small shopkeepers, and people of that kind, who, they thought, would be likely to avail themselves of this Bill. He thought the Bill should be made perfectly clear, and should not be passed or made use of for the benefit of that class, who could usually take care of themselves, and certainly did not come under the designation of "labouring " population."

Then, as to the second clause, in reference to the Lands Clauses Acts, the Bill incorporated the Lands Clauses Acts, " except the provisions of those Acts with respect to the " purchase and taking of land otherwise than by agree- " ment," thus practically incorporating only a few sections, which enabled persons under disability to sell land voluntarily

which they could not otherwise sell. No doubt the question of compulsion should be dealt with carefully; but if the objects in view were so important, then he was inclined to agree with Mr. Chatfeild Clarke as to the desirability of incorporating compulsory powers in the Bill. If it were (as he thought it was) a national object and the public welfare that was in view, he did not see any sound reason why compulsion should not be applied under proper safeguards for carrying it out; at any rate he thought it was open to consideration whether it was not desirable. There was another reason why he thought so. As Mr. Chatfeild Clarke had said, this Bill, if passed, would probably have a moral effect rather than a practical effect, and he thought that the moral effect would be greatly increased if the Bill gave compulsory power to buy land.

Then, as to the third sub section respecting building houses upon the land purchased, it had been pointed out by several speakers that no houses were to be built where the land was not of the annual value for income tax of £25; therefore, as no greater quantity than 10 acres could be let to one man, it followed that no tenant under this Bill would have a house provided for him to live in. If that were to be the result of the Bill it was another reason why it would practically be a dead letter, and there seemed to be no sufficient reason why the £25 a year limit should be fixed. At the same time he did not think this question was of great importance, for the figures that Mr. Watney and Mr. Herbert Smith had given were, he thought, practically correct; so that the rent of the land would come to such a figure that no man would pay it. In most cases land and buildings could be hired at a less rent than a tenant would have to pay under this Bill. He felt sure that an agricultural labourer, with 14*s.* or 15*s.* a week wages, and a wife

and family to keep, would be much better off than he would be by hiring a small holding under this Bill.

As to the mode of carrying the scheme out, he sympathised with other county councillors who said they hoped they would have nothing to do with it. He was sure that it would lead to a vast amount of difficulty and expense and very unsatisfactory results. There was, however, a saving clause in Part III., Section 11 (1), which says, "A county "council shall not acquire land under this Act, save at "such price that, in the opinion of the council, all expense "incurred by the council in relation to the land will be "recouped out of the purchase-money for the land sold by "the council, or, in the case of land let, out of the rent, "and shall fix the purchase-money or rent at such reason- "able amount as will, in their opinion, guard them against "loss."

He thought any prudent county council would come to the conclusion that the best thing to do was to leave it alone, for he was satisfied there would be a loss in working the matter out.

Section 4 (2) provided that a single elector might petition the county council to provide small holdings. This, he thought, was unreasonable, and that there should be very good cause shown for setting such expensive and elaborate machinery in motion. There were many details in the Bill requiring modification, to which he might have referred had there been time, but some of them had been already mentioned. The Bill might probably be altered in Committee, to make it workable, but the main point was to settle on whose behalf the Bill was to be passed. He repeated that the effect of it would be chiefly a moral effect, and that it would be a rare thing for a county council to see its way to work it, and they would probably not do so unless they saw their way to keep the expense within the limit of a penny rate, as provided by the Bill.

There was another point to be remembered, viz., that the agricultural labourer, when he bought, was to pay down 25 per cent. of the purchase-money. He had also to find working capital and interest or rent for a year, and had to live also for nearly a year before he would get much return from the land. In the meantime there would be no Saturday-night wages.

Part II. of the Bill enabled county councils to become mortgagees of anyone who was going to buy a small holding, not under the Act, and to lend three-quarters of the money. This, he thought, would lead to loss. But it was not so serious a matter as buying land in large quantities and letting it again in smaller ones, on such terms as would be necessary under this Bill. At the same time, the Bill had a laudable object, and surveyors ought to do all they could to help in putting it into proper shape, and in carrying it out (if passed) efficiently.

Mr. C. F. Dowsett (Fellow) said Mr. Chatfeild Clarke, in referring to the compulsory purchase of land, had asked that it should go forth from that Meeting that they were of opinion that a compulsory clause should be introduced into the Bill. But he (Mr. Dowsett) thought that if this were done it would also be necessary to make provision for compensation for damage and severance, as was the case under every other Act which provided for compulsory purchase; for if the land acquired by the county council was only to be used for agricultural purposes, and, being so, would only be bought at an agricultural price, it would be quite possible for any county council of any particular district to purchase, say, a portion of a pleasure garden or park, and so take away from the residential character of an estate without paying its real value, and without giving the slightest compensation to the unfortunate owner.

Mr. J. Weall (Fellow) said he had much pleasure in seconding the vote of thanks to Mr. Rolleston for his very clear elucidation of the principal provisions of the Bill. He believed it was an honest endeavour by the House of Commons to stimulate agriculture, and to engage a greater number of people in the cultivation of the land. It was acknowledged that small holdings were only useful when close to towns and villages, where dairy stock and poultry could be kept, and where a fair market for the produce existed. But land close to towns and villages would be expensive to buy. And it was extremely doubtful, he thought, whether any county council, by putting the Act into operation, could acquire really desirable land at such a price as to be able to sell it to the labourer on terms which would induce him to take it up. In most cases, farmers who owned land were far worse off than tenant-farmers, for the whole of their capital was sunk in the land, while they wanted every penny for the proper cultivation of it.

The President said that, judging from the remarks of the Members who had taken part in the discussion, the general opinion, in which he agreed, was that this was a Bill promoted with an undoubtedly good object, namely, for the purpose of inducing the agricultural population now settled on the land to remain there, and to bring back those who had deserted the rural districts for the towns. It was a tentative and experimental Bill, and the result of its working remained to be seen; however, in the opinion of a number of people well qualified to judge it was likely to be of considerable service. He, with others, thought Mr. Chaplin and those who had promoted the Bill were to be thanked for having done so.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

Paper 184.
No. 308.

ON THE VALUATION OF FEEDING STUFFS AND FOODS.

By EDWARD KINCH (Associate).

Read at the Ordinary General Meeting of The Surveyors' Institution, *Monday, March 28th*, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

The subject which I have undertaken to introduce this evening is one whose importance is well known to us all—its difficulties are best known to those who have attempted to overcome them.

I can hope to do little more than point out some of the avenues by which this subject of the valuation of foods may be approached, and by drawing attention to some of the difficulties and pitfalls in the path, perhaps render easier the excursions of others in the same direction. Still I trust that some of the conclusions arrived at, though only rough approximations to the truth, may be of value to the practical man in deciding which food he should purchase for a particular purpose.

I have given in Table I. the estimated consumption of oil-cakes and oil-seeds in this country, being the imports less the exports, compiled from the Board of Trade returns; these show that in 1890 rather more than one million tons of oil-seeds and oil-cakes were consumed in the United Kingdom. Of course, not quite all the oil-cakes obtained from the seeds were used as food, a little being only fit for manure, but by far the predominating proportion was so used. This table does not mention the immense import of cereals, leguminous seeds, and other foods of which a large proportion is used as cattle food.

Table I.

CONSUMPTION, BEING IMPORTS LESS EXPORTS.

	(a) Oil-cake.	(a) Cotton Seed.	Linseed.	Rape Seed.	Seeds Unenumerated, for Expressing Oil.	Nuts & Kernels for Expressing Oil.
			QUANTITIES.			
	Tons.	Tons.	Quarters.	Quarters.	Quarters.	Tons.
1886	296,480	254,613	1,891,117	301,491	72,877	—
1887	264,849	275,627	2,223,047	361,555	47,652	—
1888	257,748	257,172	2,387,113	248,252	64,339	—
1889	255,918	277,394	2,028,282	386,482	56,911	—
1890	282,616	314,050	1,836,983 (b)	185,607	16,801	22,551
			VALUES.			
	£	£	£	£	£	£
1886	1,887,663	1,491,670	3,884,020	390,876	118,419	—
1887	1,555,881	1,537,806	4,079,782	412,359	73,153	—
1888	1,607,263	1,657,432	4,506,706	389,676	98,489	—
1889	1,701,106	1,906,220	4,077,982	668,564	72,675	—
1890	1,743,279	1,744,215	3,748,258	316,983	34,713	274,663

(a) Imports only, the exports being very small. In 1890, 4,010 tons of oil-cake, value £23,052, were exported, and 28 tons of cotton seed, value £156.

(b) If the quarter be taken at 420 lbs., this equals 344,372 tons.

Of the oil-cake imported in 1890, 77·9 per cent. came from the United States, 9·1 per cent. from Russia, 4·6 per cent. from France, 2·8 per cent. from Germany, and 1·9 per cent. from India. Sweden, Egypt, Spain, and Brazil each sent less than 1 per cent. of the total.

Of the cotton seed imported in 1890, Egypt sent 90 per cent., and Brazil 5 per cent., and Turkey and the United States each over 1 per cent.

Of the linseed imported in 1890, India contributed 50·5 per cent., Russia 41·6 per cent., the Argentine 3·5 per cent., Holland and Turkey each rather more than 1 per cent.

Of the seeds unenumerated but used for expressing oil therefrom, India sent 59·9 per cent., Russia 15·9 per cent., Germany 10 per cent., Holland 6·9 per cent., and Turkey 1·6 per cent.

India contributed 55·3 per cent. of the rape seed imported in 1890, Russia 31·1 per cent., Roumania 5·4 per cent., Belgium 3·1 per cent., Germany 2·6 per cent., and France 1·4 per cent.

	Total.							Digested.					No. of Food Units.	Estimated Value per Ton in Shillings.
	Water.	Nitrogenous Matter.	Fat.	Soluble Carbohydrates.	Fibre.	Ash.	Albuminoids.	Albuminoids and Amides.	Fat.	Soluble Carbohydrates.	Fibre.	Albuminoids.		
Linseed	12·3	20·5	37·0	19·6	7·2	3·4	19·5	18·7	31·8	10·8	4·4	17·7	141	175
Linseed cake	11·5	27·0	11·6	34·2	9·0	6·7	25·4	23·2	10·4	27·4	4·0	21·6	115	143
" " American	10·5	34·5	8·2	35·0	6·6	5·2	32·4	29·7	7·4	28·0	2·9	27·6	124	154
Rape cake	10·4	30·7	9·8	30·1	11·3	7·7	27·3	24·9	7·7	22·9	0·9	21·5	105	130
Cotton cake, decorticated	8·2	44·0	13·5	21·5	6·0	6·8	42·2	37·4	11·8	20·4	—	35·6	144	179
" " undecorticated	12·2	20·8	5·4	35·6	20·8	5·2	19·3	15·6	4·8	19·2	2·5	14·1	73	91
Palm-nut kernel cake	10·2	16·1	9·5	41·9	18·3	4·0	15·0	15·3	9·0	39·4	15·0	14·2	105	130
Coco-nut cake	10·3	19·7	11·0	38·7	14·4	5·9	18·3	15·0	11·0	31·4	8·9	13·6	105	130
Hemp cake	11·9	29·8	8·5	17·3	24·7	7·8	—	20·9	7·2	10·4	6·2	—	87	108
Earth-nut cake, decorticated	10·0	47·5	7·8	24·9	5·2	4·6	44·2	43·2	6·7	24·4	0·8	39·9	150	186
Peas	14·5	22·4	2·0	52·5	6·4	2·4	19·9	19·9	1·5	48·8	4·2	17·4	107	133
Beans	14·3	25·5	1·6	45·9	9·4	3·1	22·7	22·4	1·4	42·7	6·8	19·6	109	135
Locust beans	13·0	4·0	2·0	73·3	5·9	1·8	—	2·7	1·1	69·6	4·6	—	84	104
Oats	13·0	12·9	6·0	53·4	10·0	2·7	11·7	10·1	5·0	42·1	2·0	8·9	82	102
Barley	14·0	10·6	2·0	64·1	7·1	2·2	10·2	8.2	2·0	55·8	—	7·8	81	100
Maize	11·0	10·4	5·1	70·0	2·0	1·5	8·9	7·5	4·3	65·8	1·5	6·0	97	120
Rice meal	10·0	11·9	12·1	47·0	9·0	10·0	11·2	9·2	10·6	47·0	6·0	8·5	103	128
Wheat bran	14·0	14·5	4·0	51·3	10·1	6·1	12·8	10·7	3·0	41·0	3·4	9·0	79	98
Malt dust	10·0	23·7	2·2	43·8	13·5	6·8	17·3	18·5	1·1	37·7	11·5	12·1	98	122
Brewers' grains, dried	9·3	20·2	7·7	43·6	15·0	4·2	19·4	14·5	6·5	29·2	6·3	13·7	88	109
Meadow hay	14·3	9·7	2·5	41·0	26·3	6·2	8·4	5·5	1·2	25·4	15·3	4·2	58	72
Clover hay	16·0	12·3	2·2	38·2	26·0	5·3	10·2	6·8	1·1	24·8	11·7	4·7	56	69
Oat straw	14·3	4·0	2·0	36·2	39·5	4·0	3·2	1·4	0·7	16·3	22·5	0·6	44	55
Wheat straw	14·3	3·0	1·2	36·9	40·0	4·6	—	0·5	0·4	14·4	22·4	—	39	48
Bean straw	16·0	8·1	1·0	35·3	35·0	4·6	—	4·0	0·6	22·6	13·7	—	48	60
Meadow grass	80·0	3·5	0·8	9·7	4·0	2·0	2·6	2·6	0·5	7·6	3·0	1·7	18	22
Clover	83·0	3·3	0·7	7·0	4·5	1·5	2·3	2·2	0·4	5·1	2·4	1·2	14	17
Lucerne	74.0	4·5	0·8	9·2	9·5	2·0	3·2	3·5	0·3	6·4	4·1	2·2	20	25
Potatoes	75·0	2·1	0·2	20·7	1·1	0·9	1·3	1·4	—	19·3	—	0·6	23	29
Sugar beets	81·5	1·0	0·1	15·4	1·3	0·7	—	0·62	0·1	14·3	—	0·55	16	20
Swedes	89·3	1·4	0·2	7·4	1·1	0·6	0·7	0·84	0·1	7·4	—	0·75	9·6	12
Turnips	92·0	1·0	0·2	5·2	0·9	0·7	0·5	0·6	—	4·6	—	0·4	6	7·5

It is clearly desirable to try and find out whether the price the farmer pays for these foods and for other foods —their market price—can be referred to any fixed rules dependent on the chemical composition and other directly ascertainable data, obtained by experiment or experience.

In the case of manures—the food of plants—which is in some respects a more simple problem, the chemical composition and the relative availability are already the main factors in determining the price. My object in the present paper is to try to find out what determinable factors we already possess for use in valuing a food.

In the statement of the analysis of a food the constituents are generally entered in the following categories:—(1) Water; (2) Albuminoids, or proteids, or flesh formers; (3) Fat; (4) Carbohydrates, &c.; (5) Fibre or cellulose; (6) Ash or salts. See Table II.

That the present methods of analysis of foods and methods of statement of the results are to a certain extent unsatisfactory and in need of improvement the chemist will be the first to acknowledge, and he is doing good work in this and other countries to remedy the defects.

The estimation of Water, even, is not always the simple thing it may seem, and it is, perhaps, more important than it appears at first sight, as on the right determination of the amount of water the correct estimate of the amount of soluble carbohydrates present in part depends. The amount of water in a food is generally more likely to be underestimated than the contrary; when it exceeds a certain limit the food is much more liable to become musty on keeping.

The Albuminoids are usually determined by multiplying the total amount of nitrogen in the food by 6·25: this method involves assumptions; such as that all the nitrogen is in the form of albuminoids, and that all the albuminoids contain 16 per cent. of nitrogen. Neither of these is quite true, and

in some classes of foods, especially immature vegetable products, the former may be far from the truth. This is now so far recognised that in the statement of the analysis of foods it is beginning to be customary to state the percentage of the true albuminoids or of the albuminoid and non-albuminoid nitrogen.

Table III.

ALBUMINOID AND NON-ALBUMINOID NITROGEN IN FOODS.

	Total Nitrogen per cent. in dry matter.'	Per cent. of Nitrogen which is Albuminoid.	Nitrogen of Albuminoids digested in per cent. of total N.
Linseed	3·62	95	86
Linseed cake	5·13	94	80
Rape cake	5·2	89	70
Cotton cake, decorticated.	6·71	96	81
Cotton cake	5·15	93	68
Coco-nut cake	3·58	93	69
Earth-nut cake	7·94	93	84
Peas	4·78	89	78
Beans	5·0	89	77
Oats	1·65	91	69
Barley	1·90	96	73
Maize	2·03	86	58
Rice meal	2·1	94	71
Wheat bran	2·19	88	62
Malt dust	4·47	73	51
Brewers' grains	3·21	96	68
Meadow hay	1·78	87	44
Clover hay	2·23	83	38
Oat straw	·74	80	15
Grass	2·7	about 75	50
Clover	3·1	,, 70	36
Lucerne	2·8	,, 70	48
Potatoes	1·5	,, 60	28
Turnips	2·2	,, 50	40
Carrots	1·8	,, 60	50
Mangels	1·5	,, 36	33

The non-albuminoid nitrogenous substances are mainly amides, *e.g.*, asparagin, but may include nitrates, ammonia salts, and various nitrogenous organic substances. Table III. shows the average percentage of nitrogen which occurs as albuminoids in many foods. It will be noticed that in most

of the grains and seeds 90 per cent. or more of the nitrogen is albuminoid, whilst in green fodders only about three-fourths of the total nitrogen is of this feeding value, and in roots sometimes only one-third to one-half may be albuminoid.

The Fat is usually the total amount soluble in boiling ether or ether-extract. This may include many things not true fat, such as chlorophyll, resin, wax, cholesterol, lecithin, &c. In crude foods, such as grass and hay, the error is greatest. Other solvents than ether, such as light petroleum spirit (benzoline), are sometimes used, but do not, on the whole, give more satisfactory results. There is need for much study and research on this group of food constituents.

The so-called Soluble Carbohydrates are usually estimated by difference, that is, the sum of the percentages of the other constituents is subtracted from 100 to find the carbohydrates. They include the various groups of carbohydrates, such as starch, sugars, dextrin, inulin, &c., and also gums and mucilage, pentaglucoses, &c. Some of them are soluble in cold water, some in hot water, some are insoluble in water, some are attacked by ferments (enzymes) *e.g.* diastase, and some only by the action of dilute acids and alkalis. Some of the varieties of Cellulose are partly dissolved by these last reagents, and some are partly digested in the animal body. These substances, though all classed together, have not all the same feeding value or physiological importance; our knowledge of them is gradually increasing.

Fibre, or indigestible cellulose, is usually taken as the amount of the food insoluble in boiling dilute acid and boiling dilute alkali under certain conditions. It is but a crude measure of indigestible matter, as part of the undissolved fibre is digested, whilst part of the carbohydrates, dissolved in acid and alkali, is not digested. The work of Messrs. Cross & Bevan in this country is giving us a greater

insight into the chemistry of cellulose and fibre. In a food, indigestible fibre is not without its value, especially for ruminants, as it tends to give the necessary bulk to the food.

The amount of Ash in a food is less liable to errors of determination; an important practical point connected with the percentage of ash is that, when excessive, the presence of sand and mineral dirt is indicated.

That the digestible portion of the food is of far greater value than the indigestible is obvious, and, indeed, in a strict sense only the digested portion is *food*. Of late years our knowledge on the digestion of food by farm animals has become more exact, it has been the subject of a very large number of experiments in Germany; at the Hohenheim Versuchs-Station more than 600 experiments have been carried out since 1866, and more than 1,000 digestion experiments with different animals are on record. The plan adopted, shortly, is to feed the animal with weighed quantities of food the composition of which is known, and during the experimental period to collect the solid excrement, weigh it and analyse it by the same methods as used for the food. The constituents found in the solid excreta are taken as undigested: the results are not quite correct owing to the presence of a small amount of biliary and intestinal secretions in the dung.

Another plan, of more limited application, is to digest the food artificially with pepsin in an acid solution and with pancreatin in an alkaline solution, at proper temperatures, without the use of an animal. Stutzer and others have obtained useful results by this method; they show a rather higher digestibility of albuminoids than is obtained in the experiments with animals, no doubt partly owing to the absence of intestinal matter.

The proportion of each food constituent digested for 100 supplied in the food is called its "digestion coefficient."

The following Table IV. is from results collated by Wolff, from experiments with ruminants. The same food has a different digestion coefficient for different animals, thus a horse digests less of coarse fodders, and especially of the fibre therein, than ruminants, which is explained by the difference in the nature of their digestive apparatus. The addition of one food to another to some extent influences the digestibility of each, and especially does the addition of soluble carbohydrates (potatoes) to a bulky and fibrous fodder diminish its digestibility.

Table IV.

DIGESTION COEFFICIENTS WITH RUMINANTS.

	Organic matter.	Albuminoids and Amides.	Crude Fibre.	Crude Fat.	Carbo-hydrates, &c.
Linseed	77	91	61	86	55
Linseed cake	81	86	44	90	80
Rape cake	66	81	8	79	76
Cotton cake, decorticated.	80	85	—	88	95
Cotton cake, undecorticated.	56	75	12	89	54
Coco-nut cake	78	76	62	100	81
Earth-nut cake	85	91	16	86	98
Peas	90	89	66	75	93
Beans	89	88	72	86	93
Locust beans	94	68	78	54	95
Oats	70	78	20	83	76
Barley	81	77	—	100	87
Maize	91	72	77	85	94
Rice meal	89	77	67	88	100
Wheat bran	74	74	34	74	80
Malt dust	81	78	85	50	86
Brewers' grains	65	72	42	84	67
Meadow hay (medium)	60	57	58	49	62
Clover hay (medium)	57	55	45	51	65
Oat straw	50	35	57	35	45
Wheat straw	46	17	56	36	39
Bean straw	51	49	39	56	64
Pea straw (very good)	59	61	52	46	64
Meadow grass	77	75	75	66	78
Clover	66	66	53	64	73
Lucerne	62	77	43	39	70
Potatoes	88	65	—	—	93
Sugar beets	89	62	—	—	95

That the more correct estimation and differentiation of the nitrogenous matters in food, coupled with some knowledge of their digestibility, may very greatly modify our estimates of their feeding value and the way in which they

should be combined for feeding purposes, is brought out by reference to the figures in Table V. The first column of figures shows the ratio between the digested nitrogenous matter and digested non-nitrogenous matter (fat reduced to its starch value),* being what was formerly known as the albuminoid ratio; the second column shows the true albuminoid ratio in which the ratio between the digested albuminoids and the digested non-nitrogenous matter and amides reduced to their starch value is given. In the case of the coarse fodders and roots the difference in value is very great, and it shows that these foods are far poorer in digestible albuminoids, and therefore, relatively, are much more carbonaceous foods than was formerly thought. The great importance and the economy of giving a more nitrogenous food with roots and straw is thus emphasised.

In the large Table II., also, is given a column showing the average percentages of digestible true albuminoids, as well as one showing the total digestible nitrogenous matter.

Table V.

RATIO OF NITROGENOUS TO NON-NITROGENOUS MATTER, CALCULATED AS STARCH, IN THE DIGESTIBLE PART OF FOOD.—(*R. Warington.*)

Food.	Total Nitrogenous matter to Non-nitrogenous.	Albuminoids to Non-albuminoids. True Albuminoid ratio.
Linseed cake	1 : 2·3	1 : 2·6
Cotton cake, decorticated	1 : 1·2	1 : 1·4
Cotton cake, undecorticated	1 : 2·1	1 : 2·4
Peas	1 : 2·8	1 : 3·3
Beans	1 : 2·3	1 : 2·7
Oats	1 : 5·4	1 : 5·9
Barley	1 : 7·3	1 : 8·0
Maize	1 : 9·0	1 : 9·9
Rice meal	1 : 7·6	1 : 8·4
Wheat bran	1 : 4·2	1 : 5·3
Malt dust	1 : 2·6	1 : 4·2
Brewers' grains	1 : 2·8	1 : 2·9
Meadow hay	1 : 6·9	1 : 9·5
Clover hay	1 : 5·0	1 : 7·5
Barley straw	1 : 53·8	1 : 108·0
Wheat straw	1 : 65·9	—
Potatoes	1 : 12·2	1 : 23·5
*Swedes	1 : 5·4	1 : 11·5
*Turnips	1 : 5·8	1 : 12·1
*Carrots	1 : 8·6	1 : 16·5
*Mangels	1 : 8·6	1 : 24·1

* The roots are supposed to be entirely digested.

* That is, the percentage of digested fat is multiplied by 2½, and the product added to the percentage of digested carbohydrates.

It is clearly desirable that the farmer should be able to calculate in what forms and in what foods he can buy food constituents, albuminoids, fats, carbohydrates, &c., in the most economical form. Now, he can readily estimate in the case of manures in what form he can most cheaply buy nitrogen, phosphoric acid, potash, &c., and the market price of manures is to a large extent controlled by the price per unit of these chemical constituents. But in the case of foods the problem is more complicated than in that of manures. The various food constituents cannot, practically, be bought separately, and questions of the use of particular foods as food for man, as raw material for manufactures, and of their digestibility, taste, and palatability, portability, and keeping properties are disturbing factors in forming estimates and in fixing the market price.

Thaer compared foods generally in value with hay, but did not differentiate between the value of different food constituents; Boussingault made comparative estimates, but assigned too much importance to the nitrogenous constituents.

Grouven, Wolff, and H. Schultze* about twenty years ago seem to have been the first to attempt to fix money values to the more important food constituents. It was clearly seen from this that only foods of the same nature could be classed together, such as (*a*) oil-cakes, (*b*) grains and their products, (*c*) green foods, (*d*) hay and straw; and different money values were assigned to the constituents in each of these categories.

At that time less was known about the digestibility of different foods than at the present time.

Since then, Krämer, König,† Almén, and others have

* Annalen der Landwirthschaft, 1871, 347.

† Landwirth: Jahrbuch, 1880, 1883, 1887: Chemie der menschlichen Nährungs-und-Genuss-mittel, 3rd Edn., 1890.

attempted to estimate the money value of the food of man, and especially Wolff that of the food of farm animals as shown in the various editions of his "Landwirthschaftliche Fütterungslehre."

We are concerned only with the food of farm animals, which so far simplifies the matter, as it avoids the comparison of the price of food constituents in foods of animal origin with their price in those of vegetable origin.

We must first settle which of the constituents are to be valued, whether all or only some. It is generally agreed that only the nitrogenous matter, the fat, and the carbohydrates (including digestible fibre) are to be given a money value. The unoxidisable constituents, ash and water, though absolutely essential to the well-being and growth of animals, are so commonly present in sufficient quantity in all foods or mixtures of foods, or can be so readily supplied, that they need not be considered in affixing a money value.

Then again, should the crude constituents be valued, or only the digestible? Clearly the latter have by far the predominating value although the undigested matter is not quite useless, and in the case of the nitrogenous matter has a certain, though low, manure value.

The functions fulfilled by digested fat and by digested carbohydrates in the animal body are much the same, they can both be directly burnt in the system to produce heat or energy, or they can be stored up in the animal, as fat, to become available as a supply of energy in the future: in this last case the carbohydrate is converted into fat in the animal. The relative values of carbohydrates and fat have been fairly accurately determined by physiological and calorimetric determinations, as we shall notice presently.

The albuminoids on the other hand, although they can be burnt to produce heat, &c., in the body, and under certain conditions can be converted into fat, yet fulfil other

functions, those of flesh formers and repairers of nitrogenous tissues in the animal, which cannot be fulfilled by the non-nitrogenous constituents. Moreover, they have an after manurial value which the fats and carbohydrates have not. So we cannot directly compare them with these latter.

The subject may be looked at from a physiological point of view; thus, in the food of young animals, in milk, there is about $3\frac{1}{2}$ times as much non-nitrogenous organic matter (considered as carbohydrates) as albuminoids—the albuminoid ratio is 1: 3·5. In the food of adult animals, that is in grass and cereals, there is 6 or 7 times as much carbohydrates (including fats) as albuminoids—the albuminoid ratio is 1: 6 or 7. It may therefore be said, that albuminoids are worth six times as much as carbohydrates, as one part of albuminoid enables six parts of carbohydrates to carry on its functions in the animal, and *vice versâ*. This is true from a certain point of view, but not at all necessarily so from a commercial point of view, and, as we shall find, albuminoids may be purchased at considerably less than six times the price of carbohydrates.

If we endeavour to find a value from the market price of the separate ingredients, as far as this is possible, the results do not take us very far. Oils and fats have separate market values, but the use of some of them for the preparation of man's food, and of others for manufactures and in various industries, enhances their value. Cotton seed oil costs about 2*d.* a lb. (18*s.* 8*d.* a cwt.), and linseed oil is slightly higher (21*s.* a cwt.). Part of this (perhaps one-third) is due to cost of manufacture and manufacturers' and merchants' profits.

If we attempt to find the value of oil in oil cakes by taking two cakes of a similar kind, one poor in oil and the other rich in oil, we find, after allowing for the variations in albuminoids and carbohydrates, that the extra amount of

oil in the cake costs even more than if it were in a free state. Here the consumer is paying higher for a convenience and what may be considered a luxury.

Starch and sugar may be obtained separately, but the cost of manufacture of the first and its use for other purposes than food, and the use of the latter as human food, largely increase their price, when in a pure or nearly pure condition. Potatoes are mainly a starchy food, and with potatoes at 48*s.* a ton the starch in them costs about 1*d.* a lb. Sugar in the crudest form may sometimes be bought at about 1*d.* a lb., but is generally higher.

Albuminoids in a separate state are only met with in albumen from blood serum, gluten from starch factories, and perhaps one or two similar products whose cost does not enable us to estimate their food value.

Albuminoids, from a heat-producing point of view, when burnt in the animal body have an almost exactly equal value with carbohydrates (starch); but they have a further value as flesh formers and a manure value. The latter may be valued thus; with nitrate of soda at £9 a ton, nitrogen (in it) is worth 6*d.* a lb., then the nitrogen in a pound of albuminoids at that rate is worth nearly 1*d.*, but allowing 50 per cent. as the present value (see page 323) thereof the present manure value of a pound of albuminoids is about $\frac{1}{2}d.$

The heat-producing power of food constituents is one method of estimating their value to the animal for producing heat or work.

The first accurate experiments on the determination of the heats of combustion of foods, and of the oxidised nitrogenous products of foods found in the excreta, were made by E. Frankland (*), the general results were rather lower than those obtained more recently with improved apparatus. Numerous other experiments have since been made, especi-

(*) Phil. Mag., 1866 [4], xxxii., 182.

ally by Danilewsky (*), Stohman (†), Berthelot (‡), Rubner (§), and H. B. Gibson (‖).

Taking the more recent results, especially those o Rubner, partly obtained by calorimetric determinations and partly from calculations from results obtained by feeding animals in respiration chambers, we find that the so-called iso-dynamic values, or quantities which can produce the same amount of heat or of energy, of some of the chief food constituents are—

Fat	=	100
Cane sugar and gum	=	235
Grape sugar	=	255
Starch	=	229
Milk sugar	=	243
Muscle	=	213 to 235
Cellulose	=	267
Bread	=	336
Asparagin	=	469

Or taking the heat-producing power of starch as unity—

Starch	=	1
Fat	=	2·29
Muscle	=	·97
Cane sugar	=	·97
Milk sugar	=	·94
Glucose	=	·90
Cellulose	=	(abt.)·86
Asparagin	=	·49

(*) Chem. Centralblatt, 1881, 564.

(†) Journal fur prakt. Chemie, 1885-1887, xxxi., 273; xxxii., 93, 407, 420.

(‡) Comptes Rendus, ci., 141, &c.; civ., 1571. Annales Chimique [6], x., 441.

(§) Zeitschrift fur Biologie, 1883, xix., 313; 1885, xxi., 250; 1886, xxii., 40.

(‖) Storr's School Agr., Expt. Station Report, 1890. Middleton, Conn., U.S.A.

Albuminoids when burnt in the animal body do not produce so much heat as when burnt in a calorimeter owing to the production of urea and small quantities of other incompletely oxidised nitrogenous bodies; the heat of combustion of these has been carefully determined and allowed for in making the calculations as to the heat produced in the body. Albuminoids produce about one-third their weight of urea.

The different oils and fats produce rather different quantities of heat when burnt, either inside or outside the body, and so with different albuminoids and different carbohydrates. Generally and broadly, when consumed in the animal one gram of fat produces 9·3 Calories, one gram of albuminoids or one gram of carbohydrates (starch) 4·1 Calories. A Calorie is the amount of heat required to raise 1000 grams (1 kilogram) of water through 1° Centigrade, This may, of course, be readily translated into its mechanical equivalent in foot-lbs. or foot-tons if desired. One Calorie is equivalent to 1·368 foot-tons; 1 lb. = 453·6 grams.

Since the fats and carbohydrates perform the same functions in the animal body, there should here be an accord between the physiological and the market values for food thereof. No doubt the fat might have a slightly enhanced value owing to its being more condensed, and therefore more portable and more easily assimilable, and possibly it has some special food value to the animal, as some experiments (*e.g.*, of Mr. Cooke, of Flitcham*) seem to show. Still, I think we shall in this case be justified in approximating the ratio of their money values to that of the physiological values 1 : 2·29; and I have below used the ratio 1 : $2\frac{1}{2}$. Some of the feeding experiments of Lawes and Gilbert and others also indicate that this is really near their relative value to the animal.

* Journal Royal Agricultural Society 1890, [2] xxv. 407.

There seem to be two methods of approaching an estimate of the price of the food constituents in a mathematical way, when the composition of the food and its market price is known. One is by solving a series of simultaneous equations in which the values of the albuminoids, fats, and carbohydrates are the three unknowns; and the other is an application of the "method of least squares" to find the most probable mean value of these three unknowns from a number of analyses and market prices.

There may be other mathematical methods known to Members of the Institution.

The first method is wont to give results which are of no value, unless only those foods which have a fairly similar composition be compared together, otherwise *minus* values and excessive values will often be found in the answers. The second method, when properly applied, and when strictly commercial foods only are compared, gives some useful results.

Such methods have been used by some of the authorities before named, and at the Connecticut Experiment Station.

The actual price naturally varies from year to year and with many circumstances, so it will be better to compare the relation between the prices, taking the lowest as unity.

The following numbers show the ratio between the values of the three named food constituents, assigned at different times and by different persons, sometimes by contemplation and sometimes by calculation over the market values.

	Carbo-hydrates.	:	Fat.	:	Albumi-noids.
Grouven's and Schultze's ratios *					
,, in grain and its products and in roots	1	:	3·3	:	2·7

* These were the ratios in the crude foods, and the differences in price were to allow for the differences in digestibility.

	Carbo-hydrates.		Fat.		Albumi-noids.
Grouven's and Schultze's ratios					
„ in oil-cakes - -	1	:	3·3	:	2
„ in green foods -	1	:	1·3	:	1·7
„ in hay and straw -	1	:	1·3	:	1·3
Wolff, in 1874 - - -	1	:	2·5	:	6
Versuchs-Stationen, in crude foods, 1891 - - - - -	1	:	5	:	5
Wolff, in digestible matters 1891	1	:	2	:	3
König, calculated 1874-79, in men's food - - - -	1	:	3	:	3
König, calculated 1879-80, in men's food - - - -	1	:	3·7	:	3·5
König, calculated 1882-85, in men's food - - - -	1	:	1·3	:	2·3
König, in vegetable foods, about	1	:	2-3	:	4-5
Connecticut Station, in cereal products and cotton and linseed meals, calculated 1888 - -	1	:	4·3	:	1·7
Ditto ditto ditto 1890	1	:	2	:	1

The difference in the last two cases was probably due to the price of starchy cereals and their products having risen, whilst that of the nitrogenous oil-cake meals had fallen in the latter year.

The ratios 1 : 5 : 5 applied to the crude constituents are used at some of the German stations in estimating compensation to be allowed when a food is not up to sample. Wolff now uses Digestible Carbohydrates : Digestible Fat : Digestible Albuminoids 1 : 2 : 3 in calculating his most recent tables, viz., 11 pfennige a kilogram for digestible carbohydrates, 22 pfg. for digestible fat, and 33 pfg. for digestible albuminoids per kilogram. That is ·6*d.* for a pound of digestible carbohydrates, 1·2*d.* a pound for

digestible fat, and 1·8*d.* a pound for digestible albuminoids. There are important and serious differences in these various estimates.

[Since this paper has been in type I have seen the remarks of Dr. Peter Collier, the Director of the New York Agricultural Experiment Station, on this subject.*

Besides his own figures and calculations, he quotes figures of other American writers, which, reduced to ratios as above, are as follows :—

	Carbo-hydrates.	Fats.	Albuminoids.
Prof. Wulff, Indiana Experiment Station, in 1889. On digestible constituents - - - -	1	3·7	3·7
Dr. Jenkins, in 1889, on total constituents - - - -	1	4·37	1·66
Dr. P. Collier, in 1890, on total constituents - - - -	1	2·5	2·5

Dr. Collier values the crude constituents in the concentrated foods at the following rates: for total fats and albuminoids, 2½ cents each per pound; for total carbohydrates and fibre, 1 cent a pound. His calculated values at these rates are rather higher than the actual prices at the time. For the values of hay, straw, and green fodders, he calculated on the same scale, and deducts 22·6 per cent. in order to arrive at their real value; this deduction being made to allow for difference in digestibility. The above gives the food value, to which is added a fertilising value; the food and fertilising value together often largely exceed the market price.]

I have made a calculation by the "method of least squares" in which the composition and market price, on the

* Ninth Annual Report of the New York Agricultural Experiment Station for 1890, pp. 50-61.

day, of 26 articles of food were taken into consideration. Weights were given to each equation to endeavour to approximate to the relative amount of consumption of the article concerned, but there is great difficulty in fixing numbers which shall correctly represent the relative consumption of purchased corn and pulse compared with that of cakes.

The foods actually used were six linseed cakes, to which a total weight of 15 was given; four decorticated cotton cakes, with a weight of 8; two undecorticated cotton cakes, with a weight of 10; 10 miscellaneous cakes and seeds—viz., rape cake, hemp cake, coco-nut cake, palm-nut kernel cake, earth-nut cake, rice meal, a mixed cake, locust beans, cotton seed, and linseed, each with a weight of 1; beans, with a weight of 8; peas, with a weight of 4; barley and oats, each with a weight of 10; and maize, with a weight of 20. Most of these foods were the same as those given in Table VI.

Taking x as digestible albuminoids, y as digestible fat, and z as digestible carbohydrates + digestible fibre, and the price in shillings, and omitting the last 3 integral figures of the sums, the following equations were obtained (1st) when, as above indicated, the cakes and seeds had a total weight of 43, the cereals of 40, and the pulses a weight of 12:—

$$37x + 12y + 59z = 224$$
$$12x + 6y + 21z = 82$$
$$59x + 21y + 206z = 537$$

(2nd). If the cakes, oil seeds, and legumes only are calculated from, the equations obtained are—

$$35x + 11y + 40z = 183$$
$$11x + 5y + 12z = 62$$
$$40x + 12y + 66z = 244$$

(3rd). If the cereals only are calculated from, the equations obtained are—

$$\begin{aligned} 2{\cdot}8\,x &+ 1{\cdot}3\,y + 19\,z = 41 \\ 1{\cdot}3\,x &+ {\cdot}7\,y + 9\,z = 20 \\ 19\,x &+ 9\,y + 140\,z = 293 \end{aligned}$$

On solving these series of equations, in the first case where cakes, cereals, and pulses are considered—

(1st). $x = 2{\cdot}58 \quad y = 3{\cdot}06 \quad z = 1{\cdot}56$

When cakes and legumes only are considered—

(2nd). $x = 2{\cdot}02 \quad y = 3{\cdot}58 \quad z = 1{\cdot}59$

When cereals only are considered—

(3rd). $x = 2{\cdot}83 \quad y = 7{\cdot}76 \quad z = 1{\cdot}21$

These figures representing the cost in shillings of a unit (1 per cent. per ton, *i.e.* 22·4 lbs.) of digestible albuminoids (x), digestible fat (y), and digestible carbohydrates (z), respectively.

The value of fat, as deduced from the cereal equations, is undoubtedly far too high ; but we should hardly go to the cereals to estimate the cost of fat. In the cereals the digestible carbohydrates appear, by this method of calculation, to cost almost exactly the same sum per unit as that we have previously suggested. In the first equation, which is the most complete, and therefore, most probably, the nearest to the truth, digestible carbohydrates are shown to be rather more costly than we had assumed, whilst fat is almost exactly the assumed value, and albuminoids are rather lower in value than fat. This fact, indeed, is shown throughout —that the percentage of fat in a food has a greater effect in determining its market value than has its percentage in albuminoids. A comparison of the first and second solu-

tions shows that albuminoids are purchased more cheaply in the cakes, and always cost less per unit than the fat.

One reason that others who have made calculations by this method have obtained such variable results is that care has not been taken to give each of the separate original equations their proper relative weight.

I must add that the weights given above, though partly derived from a consideration of the imports and exports, are partly a matter of conjecture, and may in some cases be wide of the truth. With further information and statistics I hope to get still better approximations.

Allowing that this method is applicable, to obtain a correct average one ought to know the amounts of each food consumed and apply to the equation relating to the food a modulus to represent this; unless this be done, each equation has an equal value in settling the final result, which is obviously wrong. On taking the equations from the above-named foods, no account at all is taken of the coarse fodders and roots, so that the result only expresses the most probable cost of the digestible albuminoids with a small quantity of amides, of the digestible fats, and of the digestible carbohydrates with digestible fibre in the more concentrated foods, especially in the commercial oil-cakes.

By inspection of numerous analyses of concentrated food and comparison with the market prices, one is driven to the conclusion that the market price is more largely controlled by the amount of fat than by other constituents, and also that, given the presence of a certain amount of albuminoids, the presence of a further amount does not very largely influence the price. The fixing of the relative value of the albuminoids as compared with the carbohydrates is the most difficult matter.

After careful consideration of the various points raised and many calculations from English market prices, I have

taken for use in the tables herewith the ratio of the *digestible* constituents—

Carbohydrates and Fibre.	Fat.	Albuminoids and Amides.
1	2·5	2·5.

By taking only the digestible nitrogenous matter the manure value of the undigested portion is not allowed for, but this is the least valuable of the nitrogenous manure, owing to its slow decomposition; on the other hand, by taking the amides with the digestible albuminoids, these nitrogenous matters receive a value beyond their due, the two errors partly neutralise each other.

The value per unit, *i.e.* one per cent. per ton, and per lb. of each of the considered constituents, then comes out to about—

	Per lb.	Per unit per ton.
	d.	*s.*
Digestible Carbohydrates -	$\frac{2}{3}$	1·24
Digestible Fat - - -	$1\frac{2}{3}$	3·11
Digestible Albuminoids with Amides - - -	$1\frac{2}{3}$	3·11

These values are to include the manure value of the nitrogenous matters.

These values approximate to those we might anticipate from the market values of separated oil and carbohydrates. One method of applying these values is shown in the last two columns in Table II. In the last column but one the number of what I have called "food units" in the food is given; this is obtained by multiplying the percentage of digestible albuminoids with amides by $2\frac{1}{2}$, multiplying the percentage of digestible fat by $2\frac{1}{2}$, adding to these the percentage of digestible carbohydrates and of digestible

fibre, the sum of these four numbers is the number of "food units." This multiplied by 1·24 gives the estimated value in shillings of the food per ton.

Another method of applying these values which will perhaps prove of more use to the practical man is indicated in Table VI., which shows the actual chemical analysis, the estimated digestible matter, the price per ton (on July 31st, 1891), the number of "food units," and the cost price per unit per ton in shillings of the various foods. Taking the linseed cakes, it will be seen that the cost per "food unit" varied from 1·06*s.* in American linseed cake to 1·42*s.* in very fine English linseed cake. The purchaser would then have to decide whether it were better for him to give the higher price for the better quality or not. Very likely, for finishing off a lot of Christmas beasts, he would choose the higher-priced one, for feeding store stock the lower-priced one. Considerations of this nature would guide in this decision.

Decorticated cotton cake is seen from this table to be one of the cheapest foods per "food unit" at the prices of that date, cheaper even than undecorticated cotton cake. The cereals and the leguminous seeds are on a higher scale than most of the cakes, excepting the finest quality English-made linseed cakes. Hemp cake comes out as an expensive cake at its then price, earth-nut cake as an exceedingly cheap one. Palm-nut kernel cake is also one of the cheaper foods. Locust-beans, being both a flavouring agent and a food, is on a higher scale than many other foods. The use of cereals for producing articles of food for human consumption, doubtless, tends to raise their price. The mixed feeding cakes and meals are more expensive than most of their constituents, as one has to pay for the mixing, and, also, they are often more finely ground than their constituents usually are when separate.

Table VI.

CHEMICAL ANALYSES AND PRICE PER TON OF VARIOUS FEEDING STUFFS IN JULY 1891, WITH ESTIMATED AMOUNT OF DIGESTIBLE MATTER AND COST PER "FOOD UNIT" IN EACH FOOD.

	Water.	Albuminoids.	Oil.	Soluble Carbohydrates.	Fibre.	Ash.	Price. July 31st, 1891.	Cost per "food unit" per ton.
							£ s. d.	s.
Linseed Cake (A)	11.30	31.69	14.67	29.57	7.17	5.60	9 5 0	
English		(27.3)	(13.2)	(25.6)	(3.1)		(130)	1.42
Ditto do. (B)	14.12	30.13	12.74	30.36	7.37	5.28	8 7 6	
English, 95 per cent.		(25.9)	(11.5)	(24.3)	(3.2)		(121)	1.38
Ditto do. (D)	11.45	25.30	12.67	35.61	9.13	5.84	8 2 6	
English, 95 per cent.		(21.7)	(11.4)	(28.4)	(4.0)		(115)	1.41
Ditto do. (E)	11.13	32.44	11.97	30.43	8.40	5.63	8 0 0	
English		(27.8)	(10.8)	(14.3)	(3.7)		(124.5)	1.28
Ditto do. (G)	13.04	30.57	12.02	31.99	6.74	5.64	7 12 6	
Russian		(26.3)	(10.8)	(25.6)	(2.9)		(121)	1.26
Ditto do. (H)	13.24	30.57	15.86	28.44	6.21	5.68	8 5 0	
Russian		(26.3)	(14.2)	(22.7)	(2.6)		(126.5)	1.34
Ditto do. (K)	10.92	36.33	8.54	31.80	7.05	5.36	6 12 6	
American		(31.0)	(7.7)	(25.4)	(3.0)		(125)	1.06
Ditto do. (M)	10.96	31.01	8.02	38.55	6.18	5.28	6 10 0	
American		(26.6)	(7.2)	(30.8)	(2.7)		(118)	1.10
Cotton Cake, undecorticated (N)	13.96	23.23	5.51	31.76	20.74	4.80	4 17 6	
		(17.4)	(4.9)	(17.1)	(2.0)		(75.3)	1.29
Ditto do. do. (O)	13.45	27.47	5.18	28.85	19.65	5.40	4 17 6	1.20
							(81)	
Cotton Cake, decorticated (R)	7.93	43.61	11.74	26.33	7.20	3.19	7 5 0	
		(37.0)	(10.3)	(25.0)			(143)	1.01
Ditto do. do. (S)	6.24	45.20	11.03	27.35	2.90	7.28	7 7 6	
		(38.4)	(9.7)	(25.9)			(146)	1.01
Ditto do. do. (U)	7.84	42.05	16.20	24.34	6.57	2.90	7 15 0	
		(35.7)	(14.3)	(23.0)			(148)	1.05
Ditto do. do. (W)	6.80	43.94	12.10	25.49	5.27	6.40	6 17 6	
		(37.4)	(10.6)	(24.2)			(144)	.96
Cotton Seed Q)	9.55	22.37	21.30	24.63	16.85	5.30	6 10 0	
		(18.8)	(19.1)	(12.3)	(3.3)		(110)	1.18
Rape cake (*f*)	10.48	34.56	8.65	29.35	9.64	7.32	6 5 0	
		(27.9)	(6.8)	(26.2)	(.8)		(124)	1.02
Hemp cake (*h*)	13.60	31.02	6.44	15.70	25.16	8.08	6 0 0	
		(21 7)	(5.4)	(9 4)	(6.3)		(83.5)	1.43
Coco-nut cake (*i*)	8.40	20.37	11.36	40.61	12.97	6.29	6 15 0	
		(15 5)	(11 3)	(32.5)	(8.0)		(107.5)	1.25
Palm-nut kernel cake (*k*)	9.12	15.50	12.50	35.45	23.69	3.74	5 15 0	
		(14 2)	(11.3)	(31.9)	(17.7)		(113)	1.02
Earth-nut cake, decorticated (*l*)	9.75	48.06	10.10	21.74	4.85	5.50	5 17 6	
		(43.7)	(8.7)	(20.2)	(.8)		(151)	.78
Mixed feeding cakes at £6 12*s.* 6*d.*	to £7	10*s.* a	ton, es	timate	d 1.29	*s.* to 1	.44*s.* per	unit.
Rice meal (*o*)	9.88	13.90	10.12	56.07	6.26	3.77	5 17 6	
		(10.7)	(8.9)	(56.)	(4.1)		(99)	1.19
Locust beans (*q*)	14.65	7.03	1.08	68.02	6.34	2.88	6 10 0	
		(4.7)	(5)	(64.6)	(4.7)		(82)	1.58
Barley							6 5 0	
		(8.2)	(2.0)	(55.8)			(81)	1.53
Oats							6 15 0	
		(10.1)	(5.0)	(42.1)	(2.0)		(84.3)	1.60
Maize							6 6 0	
		(7.5)	(4.3)	(65.8)	(1.5)		(96.8)	1.30
Linseed							11 10 0	
		(19.0)	(32.)	(10.8)	(4.2)		(142.5)	1.61
Peas							7 12 0	
		(19.9)	(1.5)	(48.8)	(4.2)		(107)	1.42
Beans							7 0 0	
		(22.4)	(1.4)	(42.7)	(6.8)		(97)	1.44

The figures in brackets in columns 3, 4, 5, and 6 represent the estimated percentage of digestible constituents; the figures in brackets in the last column but one give the estimated number of "food units."

When such calculations are made, the meaning of the results must be clearly kept in mind. They do not mean, for example, that American linseed cake of the chemical composition given in Table II. is certainly worth £7 14*s.* per ton, or that a decorticated cotton cake is worth £8 19*s.* per ton, whilst it probably only costs £7 10*s.*

The figures in Table VI. mean that on the values of the food constituents which are taken, in decorticated cotton cake, palm-nut kernel cake, and American linseed cake, these food constituents can be bought so much cheaper than in English or Russian linseed cake, hemp cake, or cereals. It says nothing about the respective palatability, portability, flavour, and mechanical condition of the food, or its freedom from impurities or adulterations, or its general convenience to the consumer.

To each food would have to be applied a modulus, to express the factors not considered in the chemical analysis. Its value will also vary with the class of animal to which it is to be fed. But, as far as it goes, this method gives a useful piece of information, and should be some guide to the purchaser in deciding what foods to buy for a particular purpose.

The variations in the market price sometimes depend on seasonal fluctuations, or on causes applying specially to one food, thus at the time the prices were obtained undecorticated cotton cake, and, especially, decorticated cotton cake were unusually high as compared with linseed cake; the decorticated being higher in price than the best American linseed cake. When new cotton seed arrives in October and November the prices are lower.

This method of estimating the value of feeding stuffs is based on some facts and on some assumptions, but the latter have some foundation in fact, and, as a help to a correct estimate, considerations on these lines must have a value.

I am inclined to the belief that even now albuminoids are, if anything, valued somewhat too highly as compared with the non-nitrogenous constituents of the food; and with present knowledge should place them below fat in value.

On the manure value of foods the time allows little to be said: moreover, the careful and elaborate paper of Messrs. Lawes and Gilbert in the "Journal" of the Royal Agricultural Society for 1885,* and the paper by Mr. T. A. Dickson, Fellow of the Institution, in 1887,† leave comparatively little to say. The former paper explains so clearly the method adopted in arriving at the *total original manure values* there given, that these values may easily be modified with change in market prices of manures, and with differences in the animals to which fed: for the tables only refer to the case of fattening animals. Mr. Dickson has pointed out that the market price of some manures has decreased even since the publication of Lawes and Gilbert's last table, and he has indicated the kind of deductions to be made from the manure value, where the food is given to cows-in-milk. Perhaps, however, I may be pardoned for pointing out what seems to be a misapprehension, somewhat widely spread, of the meaning of Lawes and Gilbert's figures, and which, I think, is responsible for their being often spoken of slightingly.

The so-called *total original manure value* is arrived at, as is well known, by a valuation at the current rates in other manures of the nitrogen, phosphoric acid, and potash in the total manure obtainable from the food after it has been fed to fattening animals; no account is attempted to be taken of its physical or mechanical effects, which are so much more dependent on the litter used. But the authors also state

* "Journal" Royal Agricultural Society, [2] xxi. 591.

† "Transactions" Surveyors' Institution, xix. 175.

their views in the *compensation value* to be allowed, and show how this is deriveable from the total value.

The rule is, when the food has been used for a series of years, "to deduct one-half of the original manure value of "the food used the last year and one-third (of the "remainder) from year to year, each year to the eighth, "in the case of all concentrated foods, and the roots, in fact, "of all the foods in the list excepting the hays and straws; "and for those which contain larger amounts of indigestible "matter and the constituents of which will be more slowly "available to crops, two-thirds of the original manure "value is deducted for the last year, and only one-fifth "from year to year to the eighth year."

The results so obtained are given in Table III. of the authors' paper, and the second column, which, with the exceptions named, is one-half of the original manure value, shows the allowance for the consumption of the last year—*e.g.*, £1 19*s.* 3*d.* for linseed cake, £2 16*s.* 6*d.* for decorticated cotton cake, £1 7*s.* 6*d.* for peas, £1 9*s.* 2*d.* for bran, 14*s.* 11*d.* for oats, per ton.

Again, the authors say:—"It may seem at first sight that "a deduction of 50 per cent. from the original manure value "of the food used in the last year is large; but we have "not only to make allowances for all losses to which the "manure may be subject, which may be considerable, "especially if much of the food is consumed in the yards; "but it is also to be borne in mind that the money paid for "compensation will not yield its full return for a long time. "Only half the original manure value would therefore be "allowed if the food were only used one year."

Now, though no Member of the Institution is likely to have overlooked these paragraphs, yet, if my interpretation of them is correct, they have been overlooked or misread by many speakers on the subject of unexhausted manures in

Farmers' Clubs and Chambers of Agriculture, by compilers of manufacturers and merchants' catalogues, and even by writers in the "Journal" of the Royal Agricultural Society, when the so-called *total* or *original manure value* is taken as the compensation to be given or as the present value of the manure of a ton of the given food. The interpretation I give it is that one-half of this is the present manure value of one ton of food consumed during the last, *i.e.*, current, year. I think Members will be doing good work in exposing this misinterpretation when it occurs.

Lawes and Gilbert in their scheme allow compensation on a scale of eight years' continued consumption; the allowance in this case comes to a higher figure than would be allowed under the Lincolnshire and other scales when one-half the cost price of one year's consumption is allowed; that is, at present prices. On Lawes' scale, if the limit of compensation were three to four years instead of eight, the amounts would be nearly the same as by the Lincolnshire plan.

I had intended to say something about the adulterations of cakes and their detection, but have already trespassed too far on your time and patience.

In conclusion, I wish to thank Messrs. H. Richardson & Co., of York, for kindly supplying me with prices and analyses at a given date; my colleague, Prof. A. Harker, and my assistant, Mr. J. Hendrick, for help with calculations; and to acknowledge analyses and hints taken from the works of Mr. R. Warington, F.R.S., Dr. J. König, and Dr. E. Wolff, of Hohenheim.

Mr. T. A. Dickson (Fellow) said it was with somewhat mixed feelings that he rose to propose a vote of thanks to Professor Kinch, for he saw present many learned gentlemen with more than one of whom he himself had, in days gone

by, had interviews of a character somewhat embarrassing to one of the parties concerned; but, apart from the diffidence which he naturally felt under such circumstances, he had the greatest pleasure in moving the vote of thanks to the Professor for his very able and learned Paper.

He was glad to be able to confirm the statement that there was a growing inclination amongst farmers generally to try and estimate, as accurately as possible, the value of the different constituents in artificial manure. Analyses were much more common than used to be the case; but farmers, when they received such analyses, frequently asked what the meaning of them was, and whether any money value could be given to the nitrogen, or phosphoric acid, or potash, as the case might be, which the analysed sample was said to contain. Men engaged in agriculture had, within his own experience, often gone farther, and had come to him or to other land-agents, when they had received an analysis of linseed or other cakes, and asked, "Cannot you let me know whether I am spending my "money advantageously, and whether the percentage of "oil and fat and albuminoids in the cake represents any "definite money value for those several constituents?" He had been able to enlighten them, perhaps, in the case of artificial manures, but in the case of feeding stuffs they had to go away as ignorant as they came. And on that account, even if on no other, he felt pleased that Professor Kinch had, by his valuable contribution to the "Transactions," brought this subject under the notice of The Surveyors' Institution.

In speaking of the constituents in feeding stuffs which ought to be valued, he thought most practical men would agree with him that the most important were respectively albuminoids, fat, and carbohydrates. It was not a matter of interest to know the value of the water or ash, but he

would like to ask Professor KINCH whether, in the tables he had given, the proportion digested might be taken as fairly (he would not say correct, for it was sure to be correct), but as fairly regular, and say in the case of an average sample of linseed cake, in the ratio stated in Table VI.

With regard to the question how the value might be arrived at, Professor KINCH gave four ways in which the subject might be approached; but what agriculturists wanted to know was the probable money value as far as it was practicable to ascertain it. This could only be arrived at in a more or less mathematical way, although he gathered from the Paper that, even if the author had founded his calculations chiefly on a mathematical basis, he had also taken into account the physiological and commercial value of the constituents.

It was not quite clear to his mind whether the method of "least squares" was really the most applicable for determining these values. He spoke with all deference; but he could not help asking whether it would not be possible to take a number of different feeding stuffs, putting linseed cakes by themselves, cotton cakes by themselves, and other classes of food by themselves, and then, by a series of simultaneous equations, arrive at the value of the carbohydrates, albuminoids, fats, and other food constituents. Then, according to the different valuations, one might multiply the equations, say, by 15 for linseed cake, and 8 for cotton cake, and so on. Would not such a method give certain data by which to arrive at the desired results? Whether it was possible or not, he did not know. He had just, in a rough way, worked out some of the values of linseed cakes by themselves, though, as Professor KINCH had hinted might be the case, the result was not altogether satisfactory. By taking a good number of examples and adding them together he got certain figures, and if he had

the opportunity he would have gone right through the list, and even if in some cases he had arrived at a minus quantity, the results, if all added together, would, he thought, have given something like a definite answer to the question.

He would like to ask Professor KINCH, or someone present, why the earth-nut cake apparently came out as such an exceedingly cheap food. The Paper seemed to want an appendix explaining, if possible, how it was that these foods, which seemed so much cheaper than linseed cake, and which appeared to be staple food, were not in more common use than was actually the case.

There were certain points raised by the author which, he was afraid, could only be ascertained by a series of very careful experiments carried out, more or less on the basis of the Paper, by practical men, so as to find out the effects of different foods given to different animals, and under conditions varying in each case.

In again thanking Professor KINCH for his extremely able and helpful Paper, he felt he was only expressing the sentiments of all present when he said that the honour done to him by the Council in asking him to read the Paper was reflected on the Institution, in the fact that such an exceedingly learned and exhaustive treatise on this very important subject would be first published in its "Transactions."

Mr. A. HARSTON (Fellow) said that, while he had the greatest possible pleasure in seconding the vote of thanks to Professor KINCH for his interesting explanation of so important a subject, he was sorry that it was not in his own power to make any useful contribution to the discussion. He belonged to that branch of the profession which knew least about such matters, but which, from that very fact,

could the more sincerely appreciate any able and authoritative instruction such as Professor KINCH had provided in his learned and carefully-considered Paper.

Dr. J. A. VOELCKER (Visitor) said that all who, like himself, had been privileged to see a proof of the Paper beforehand must be convinced that it embodied the results of an immense amount of study, and presented in a concise form the outcome of much earnest work bearing upon a very interesting and intricate subject. It opened up to agricultural chemists a means of looking into this question from the point of view of the very latest theories on the subject, and to them it must, therefore, be especially valuable. Although he might feel obliged to make some criticisms not altogether favourable to the process suggested, of one thing he was certain, that, to anyone who followed the same course of inquiry—be he chemist or be he practical man—nothing but good could result.

The subject was one which could hardly be adequately treated in a discussion such as was possible within the limits of time assigned to that Meeting. The Paper might form ample subject-matter for debate at a conference of agricultural chemists such as some of those recently held abroad; and, if he dealt principally with the practical aspect of the subject, it would be rather with the view of aiding discussion and bringing out some of those points which, without any opposition to the scheme propounded, he thought ought to be borne in mind in considering such proposals as had been made.

There were many points on which all agricultural chemists must be in harmony with Professor KINCH. It was true, as he said, that analyses were often made and results stated in ways which left a great deal to be desired. Much was assumed in determining the different constituents

of foods, the value of which was not so certain as it should be, such as albuminoids, fats, and carbohydrates, the latter of which, especially, were more or less of an indefinite kind. It would be of great advantage if it were possible to put the results of analyses into a form such as would convey to farmers some idea of the money value of the different kinds of food analysed. There should also be a distinct separation of the digestible and indigestible constituents, and a separate value assigned to each; but, while those points were useful, they were useful rather in the hands of the chemist than in those of the practical farmer.

Land-agents having a scientific knowledge like that possessed by Mr. Dickson could, no doubt, go somewhat deeply into such an intricate subject; but he doubted very much whether an average practical farmer would ever be able to understand the details involved in such calculations as those which the Paper contained. Here and there farmers might, in the future, be found who would pay some attention to the albuminoid ratio of diets, when the value of these had been worked out and arrived at by practical agreement amongst chemists, but he thought the day was yet far distant when chemists would come to any unanimous decision as to the value to be placed on all the different constituents of foods.

The farmer who endeavoured to work out such matters for himself would, he thought, be putting himself in the position of the man who, instead of going to a doctor, wanted to know all about medicine and all the methods of medical men, in order that he might cure himself without their help.

In saying this he was not taking the narrow professional view, for he himself felt quite as much at sea as did most people in answering such questions as Mr. Dickson had propounded with reference to the money value of the

different food constituents. He was quite content to state the results of his analyses and experiments in the light of what he believed to be, at the time, the best information on the subject, but he could not go much further; at all events, he could not venture to say, "I know all about it, "but I am not going to tell you." On such grounds he thought that the work which Professor KINCH had laid before the Meeting would be of value in the hands of the chemist, who would be able to enunciate from those conclusions certain principles to be applied afterwards to practice, but it would be some time before agreement between chemists was sufficiently close to make it of practical value in the unaided hands of the farmer.

There were, it seemed to him, two errors as to the constituents themselves, as they were recorded in the Paper. In the first place Professor KINCH said he would not apply any material money value to the ash constituents of certain foods. He would join issue with him on that point, and he was sure of the support of the practical farmer when he said, "How do you account for such a thing as a horse making "plenty of bone on certain soils and not on others?" It was well known that a horse on limestone land would make more bone than one brought up on sandy land, and the farmer, probably with reason, attributed this to the lime. Similarly, was anyone prepared to say that the ash constituents of such a thing as milk, containing phosphates and lime, did not make a material difference in the food of either human beings or young stock? It would therefore, he thought, be a mistake to omit the value of the ash constituents.

Then, secondly, it was assumed in the Paper, and also by Mr. DICKSON, that the farmer was now in the position of telling in what form he could best provide nitrogen or phosphates, or other constituents, by the use of different

kinds of fertilisers. He (Dr. Voelcker) never saw his way to acknowledging that. He wished he could, but until somebody could tell him, for instance, exactly why such a material as farmyard manure possessed an exclusive merit which it was impossible to imitate by artificial means, the point did not seem to him to be proved. It was impossible to point to any one constituent and say that because of the presence of that constituent in farmyard manure it was superior to some artificial manures; nor could it be said it was on account of its bulkiness alone. No, it was the combination of a number of different circumstances which constituted the innate difference between two materials. Similarly it was not the same thing to the hop-grower whether he manured his land with nitrogen in the form of nitrate of soda or in the form of shoddy. He knew well that shoddy was the best manure for him to use, but he could not tell why nitrogen was better in that form. It was quite impossible in such cases for chemists to lay down fixed rules or to give definite explanations. It was only in their power to accept the facts as ascertained from practical experience, and to communicate them to those who came for information; and it seemed therefore to him that it was exceedingly unsafe to make such a statement as that because so much nitrogen, for instance, was present in a certain food, it had therefore a certain fixed money value. Chemists were very far from coming to any definite conclusion with regard to the value of different constituents as manures, inasmuch as according to the materials in which they occurred, so they had different and distinct values of their own. The chief fault which the Paper seemed to him to possess was (coming now to feeding stuffs) that it started with an uncertain and varying element, and took as the basis of value so shifting and changing a thing as the market price. If the market price of feeding

materials represented the value of them for feeding, there would be a great deal to be said for adopting such a basis as a sound one; but he maintained that the feeding value was not represented, nor could be represented, by the market value.

Earth-nut cake, as Mr. Dickson had said, ought to be very cheap feeding material, and why was it not used more? He (Dr. Voelcker) was at present making experiments with earth-nut cake which, he believed, would result in showing it to be a very satisfactory feeding material. Linseed cake varied from, perhaps, £10 to £12 a ton, or sometimes went down to £9, and for some qualities as low as £7 10*s.* or £8. In this case price must be a very uncertain basis. The demand for cake was not the main factor in fixing the market price. The cake, after all, was simply refuse, and it was the market value of the oil which determined the price of the cake—the one went up and the other down, and the balance was in the hands of the oil merchant. Whether the farmer liked it or not, he had to pay the price which the merchant asked for it. It was therefore unwise, if not impossible, to make a calculation and tell the farmer the exact value of such a material when a change might at any time come in the market; for instance, Russia might restrict the exportation of linseed, and the whole calculation would be upset.

Then, to come to the question of the constituents; the fat, as Professor Kinch truly said, ruled the price, but when he appeared to assume that in whatever form it was supplied it had the same value, he (Dr. Voelcker) joined issue with him at once. He was not prepared to admit that cake with 12 per cent. of linseed oil in it was the same thing as cake with 6 per cent. of oil in it, plus 6 per cent. of oil added; but, if the argument in the Paper were maintained to its logical conclusion, it must be assumed that this would

be the case. But everyone who had to do with linseed cake knew that, as soon as the oil was pressed out, other conditions were introduced which played no unimportant part in determining the value of the material to be dealt with. The pressing displaced the oil, but it also made the cake much harder, and produced a mechanical condition in it far less favourable for digestion, while, directly the percentage of oil was altered, the relative proportions of the materials composing the cake were also disturbed. The oil went out, but there was no diminution of the other substances which combined with it to give the cake a feeding value. Therefore it was impossible to simply extract the oil from the cake, and then, by adding oil from other sources, to render it the same in character, and of the same value as a food, as when the oil was naturally amalgamated with the cake.

If a certain value were to be given to oils, how could one account for the very great difference recognised by practical men between, say, linseed oil, rape oil, mustard oil, and others? One could not express those differences in figures, but the Paper seemed to suggest that a certain value should be assigned to oil as such, without recognising those inherent properties for which he was himself far from being able to account. To take, for example, the case of rice meal. It was not difficult to supply an analysis of rice meal, and in a given sample the oil might prove to be present to the extent of 13 per cent.; but when in the shape of rice oil it was not the same thing as 13 per cent. of oil in linseed meal. The nature of the oil made, as he had said, a great difference, though he was unable to explain what the difference was; but that it existed he was quite certain. The same might be said of such oil as hemp oil, which had somewhat of an acid character, or of a pungent oil like mustard oil. In what consisted the harmful effects of mustard oil? When put into

figures it might appear harmless, but when put into the animal it would be found to possess no such value as the figures seemed to indicate. An analysis of any substance might, as regards its adaptability as a food for cattle, mean little or even nothing at all. It might seem very good as set forth by figures, and might appear to have a high value; but it was impossible to ascertain its intrinsic worth unless the conditions upon which the figures were based were taken into account.

So with regard to the action of foods on one another. They must be taken, as Professor KINCH said, in different categories; but what the farmer wanted to know was not what each food did by itself, but the result of the general mixture; and if these questions affected the value of any mixture of separate foods, they must apply equally well to the case of compound cakes and foods, because it had to be considered what was their action when used together.

With regard to the question of bulk. It was one thing, as was done in these experiments, to feed animals on what was called a *maintenance* diet; but it was quite a different thing, as the practical farmer knew, to feed them to the greatest possible advantage, and although, for the purpose of an experiment on the value of different foods he might feed animals slowly and regularly, it was very different when the farmer wanted to feed and fatten his animals quickly, for the purposes of the Christmas market. Upon this point Professor KINCH remarked, in his Paper, "Taking "the linseed cakes, it will be seen that the cost per 'food 'unit' varied from 1·06*s.* in American linseed cake to 1·42*s.* "in very fine English linseed cake. The purchaser would "then have to decide whether it were better for him to give "the higher price for the better quality or not. Very "likely, for finishing off a lot of Christmas beasts, he would "choose the higher-priced one, and, for feeding store stock,

"the lower-priced one. Considerations of this nature would "guide in this decision." But, if the chemist were not to decide that for him, and if the decision were left to the farmer, what was the use of all these calculations?

Analyses did not deal with many of the points which might exercise a very serious influence upon the determination of value as proposed in the Paper. Professor KINCH alluded to some, but, he thought, not to all of these. There was the question of palatability and flavour, which could not be put into figures, and yet was acknowledged to exert a tremendous influence on feeding value. The question of mouldiness—the keeping qualities of the cake—might not be dealt with in an analysis, but if the cake were mouldy it was impossible to say to what extent the feeding value was reduced. Rancidity, again, might very seriously affect the value. Then, the condition of the seed as regards maturity was important, for if it were not of proper age when it was used, though it might give a good analysis, yet it was known to have a prejudicial effect, as in the case of feeding with early potatoes, although analytically no difference could be shown. There were many other important physical differences which no analysis could indicate. These things all told on an animal, but the chemist could not say how they did so. Again, there was such a thing as putting good food inside a bad skin. Some animals would get fat where others would never do so, although, according to figures, they both ought to do equally well.

There was also the question of the age of the animal and its species, whether a horse, a sheep, or a goat, and, until a series of experiments could be made dealing with each of these points in detail, one could only, he thought, argue with regard to each individual case, and not generalise on the variety of cases which might occur in daily practice.

After considering the whole matter, he was bound to

confess that the present state of knowledge on these points was still very far from satisfactory either to the analytical chemist or the practical farmer, and, although it might at some future time be so extended as to produce results practically useful and universally applicable, he would not venture to predict any near approach of the solution of the difficulty.

Mr. F. J. Lloyd (Visitor) thought that everyone who would carefully read the Paper would come with him to the conclusion that it was the most learned and one of the most valuable contributions in the English language to an exceedingly difficult subject.

He could not agree entirely with all that Professor Kinch had said; on the other hand, he differed from Dr. Voelcker in some of his criticisms on the Paper, for, even if there were faults in the Paper, they must not be allowed to obscure the very many valuable points it contained, calculated to bring the subject forward, in the manner in which it must come to the front sooner or later. England was behind all Europe on this question, and farmers were asking what chemists could do to enable them—not, as some speakers had thought, to fix an absolute value upon any particular food stuff—but, to determine the relative values of substances in the market. He wished that the Paper had gone a little beyond the purely scientific aspect of the question, for, coming as he did into contact with farmers, and being thus frequently obliged to regard the subject from the practical side, he found it as difficult as it was absolutely necessary to put the teachings of science into practice. In doing so he had followed Dr. König, to whose work Professor Kinch had referred in his Paper, but without mentioning how Dr. König carried his scientific theory into practice. Farmers wanted to know the relative values borne by the three constituents, fat, carbohydrates,

and albuminoids. It would not do to give them any fractions as their relative values. Dr. König and Professor Wolff had given the relative value of 1 to carbohydrates, 2 to fat, and 3 to albuminoids, which were figures easily remembered by any farmer. How, then, was he to apply those figures? If he had a sample of cake containing 10 per cent. of oil, 20 per cent. of albuminoids, and 30 per cent. of carbohydrates, he would multiply the carbohydrates by 1=30, the 10 per cent. of oil by 2=20, and the 20 per cent. of albuminoids by 3=60, and the total, 110, was the number of "food units" which Professor Kinch mentioned, but forgot to explain. That, he believed, was the basis on which all practical work must be done.

Now, such a linseed cake contained 110 "food units," and could easily be compared with any food of a similar nature. Supposing one gave for that 110 units £5 10*s.*, that was at the rate of 1*s.* per unit for the actual feeding material of that food. If earth-nut cake was £4 10*s.* per 110 units, it would be seen at once which was the cheaper food: that was what the practical farmer wanted to know. In applying this, certain difficulties must not be overlooked; but if they were too much emphasised there was a danger that the farmer and the practical man would be slow to recognise that there was any possible step beyond the present condition of chaos. If the farmer were advised to estimate the value of digestible constituents, he would answer that the digestible constituents were not shown in an analysis, and until they were, how could he be asked to estimate their value? The farmer did not, and as a rule, could not calculate, though he ought to be able to do so, how much of any particular food was digestible, and so he must base his comparative value on the bare and incomplete analysis which agricultural chemists (including the speaker) at present gave him, which did not even state the actual

constituents in their true sense: from this he must find out the comparative value of the different foods in the market. It was true that one could not compare, in this way, a linseed cake with hay, but what farmer would attempt in his feeding to substitute linseed cake for hay? He (Mr. Lloyd) had always divided foods supplied to farmers into two classes, viz., bulky foods and concentrated foods, and each of those two classes might be again subdivided: the bulky food into dry food like hay or straw, and succulent food like roots: and the concentrated foods into those rich in nitrogenous constituents and those which contained mainly heat-producing materials—carbohydrates. The farmer must be led on step by step, and, if he could be induced to see how, by dividing those foods into classes, he could compare one food with another in the same class by the measure of their "unit" value, it would be far better for him than to remain in the position of uncertainty in which he was at present.

He trusted that this very valuable Paper would produce a considerable benefit to the farmer, and, meanwhile, he might mention that, as a contribution to the literature of the subject, he himself had recently translated Dr. König's Paper. The translation was published in the current part of the journal of the Bath and West of England Society, and showed how the principle of "feeding units" could be applied by a practical man.

Mr. J. H. Dugdale (Visitor) said that, as a practical farmer, he was driven into the depths of despair by what Dr. Voelcker had said. When in sight of land, the hopeful agriculturist had been rudely pushed back again, there, apparently, to remain. If, in the case of manures, no accurate and easily applicable measure of their values could be suggested, the outlook of the farmer seemed hopeless indeed.

He was not particularly impressed by Dr. Voelcker's arguments on the matter of ash constituents. The fact that they had a value in certain foods did not imply that they had a similar value in every food, and he thought few farmers would be prepared to take into serious consideration the value of ash constituents in their feeding materials. But his object was to ask Professor Kinch for information on one or two other points which, if not quite strictly relevant to the Paper, had at least some bearing on it. Was it not the case, in the table of Lawes and Gilbert, giving the manurial value, that, whatever prices were taken for the purpose of computation, the relative value would always remain true; and did not that equally apply to the facts in the present Paper? Although the actual market price might vary, the relative proportionate values, if properly calculated, would still remain true. He did not see how it was possible for Professor Kinch to bring forward such figures as he had been asked for, but, at the same time, he would like to know how far the published figures of the albuminoid ratio for each class of stock held good—whether it might be taken for granted that any foods mixed on the basis of such albuminoid ratio would be more completely digested. In making the deductions for manure value, spoken of in the Paper, what guide, if any, was there to enable the farmer to decide what variation should be made in the deductions according to the class of stock that was being fed—for instance, in a case like his own, where almost all the stock fed on the farm was store stock, or milking stock,—what deduction from the average value given in Lawes and Gilbert's table should be taken for that particular class of stock?

He felt sure, though his opinion was, he knew, worth little from a scientific point of view, that the bulk of farmers would look upon any effort in the direction taken by the

Paper with the greatest satisfaction, and that they would strongly deprecate the idea that the agricultural chemist was not able to help them, and that, abandoning all his theories, and disregarding his experiments and deductions, they should give up every effort to advance, and go back to the practice of their forefathers.

Mr. J. H. Sabin (Professional Associate) said it appeared to him that a very large proportion of the value to be attached to feeding stuffs must depend on the conditions under which the animals were fed as well as the character of the animals themselves. Those in a bleak exposed position would require a far larger proportion of food for the purpose of generating heat than when fed in a closed shed, where a large proportion of the food would be utilised for the purpose of flesh forming. That fact was one which appeared to be brought out in Professor Kinch's Paper in a marked degree, and practical men could well appreciate the weight of such considerations, even if they could not, perhaps, fully realise the value of the Paper from a chemical point of view. He feared Professor Kinch had rather flattered the Members of the Institution when he intimated that, perhaps, some among them might be able to suggest a better way of calculating these values than the very elaborate and laboriously scientific methods, the results of which were so carefully and enhaustively set forth in the Paper.

Professor Kinch, in reply, said he would, in the first place, endeavour to answer some of the many questions which had been propounded to him.

First, Mr. Dickson inquired whether the published digestion co-efficients could be relied on as applicable in all cases. The question of the digestion of different foods was, of course, a very difficult one, and the analyses and particular

digestion co-efficients set forth in the Paper only applied, as he had stated, to ruminants, and, of course, the individuality of the animals and the conditions surrounding them were very important facts to be considered. Everyone knew this fact from his own experience with himself; the numbers given were average numbers, and had a certain value, though they could not be applied in every case.

A question as to another mathematical method of finding the correct average of the numbers taken had been raised, and he was quite aware that the method prescribed in the Paper for a particular purpose could only be regarded as an approximation to the truth. Perhaps no one knew better than himself the many difficulties that surrounded the subject, and he only pretended to have made a step in the direction of truth, and not by any means to have solved the problem.

One of Dr. Voelcker's remarks would seem to imply that parts of the Paper were more suitable for a meeting of chemists than a meeting of surveyors; but he had endeavoured to give the points dealt with a certain amount of practical bias, and had tried to point out what he thought would possibly be useful to practical men.

With regard to ash constituents in food, he quite agreed that no food was efficient food that did not contain a proper proportion of ash constituents, but in all ordinary mixtures of foods those ash constituents were present, although there were, as he had pointed out elsewhere, exceptions; but, if one attempted to deal with all the factors, the thing became so complicated that one would be obliged to turn back very soon after starting.

The comparison of milk was scarcely applicable, for, as he had stated, it was only the question of food of vegetable origin that he had considered.

As to the valuation of manures, it would be found that he had said it was not only the chemical composition but

also the availability of the different constituents, which must be taken into account in fixing the value. He knew that it was impossible in all cases to determine the relative availability by the chemical analysis, but that was a factor. The market price was continually shifting, as had been pointed out, but the market price of one food influenced very materially that of another, so that they all tended to shift in the same direction. At certain seasons there were fluctuations in different kinds of food—in cotton seed, for instance,—and there were so many factors which controlled the actual prices of particular foods at different times that their market price must shift; but Table VI. contained the market prices of one particular day, so that, so far as they were concerned, they were at least truly referable one to another.

The other considerations pointed out by Dr. Voelcker were true difficulties, but he thought he had referred to most of them in the Paper, though he might have overlooked one or two—such as flavour, palatability, convenience, adulteration, and impurities in feeding stuffs, but at present there were absolutely no means of finding or assigning any accurate value to such factors, and he had therefore not attempted to deal with them. But what he had attempted to do was to see whether those things which could be determined with a moderate amount of accuracy could have either a relative value or an absolute value attached to them.

It was pointed out by Mr. Lloyd that Dr. König made use of figures which he (Professor Kinch) had adopted as "food units,"—but which expression he did not like—though the relative values taken for carbohydrates, fats, and albuminoids were not quite the same as those of König. He had, in Table II. and Table VI., used them in the same way as Mr. Lloyd had mentioned. The use of fractions, or, at all events, the giving of fractions to farmers, had been

objected to; but he thought, if such a number as $2\frac{1}{2}$ was beyond a farmer's comprehension, it was hopeless to try to teach him anything. These values of 1 : 2 : 3 were applied by Wolff in the Paper he had referred to, to digestible constituents, and not to the crude constituents.

The question put by Mr. Dugdale referred to the use of Lawes and Gilbert's table, and he asked if the relative numbers, however much they may have altered in actual value, might be taken as accurate. They were relatively accurate, but that was not really the point. He rather wished for some information as to whether his interpretation of Lawes and Gilbert's table was a correct one, that the actual present money value of manure was not what Lawes and Gilbert called the original manure value, but was half the original manure value. It was also asked if the published albuminoid ratios were useful. That question was rather outside the Paper, but certainly he thought they had a distinct use, and that those printed lately were fairly correct.

With regard to the deduction which ought to be made from the manure value—as to whether the food was consumed by store stock or by animals giving milk, and so on—that was a point which Lawes and Gilbert alluded to in their Paper, and which gave certain data for estimating these deductions. They said, if he remembered rightly, that, when food was fed to young store and growing stock generally, the deductions to be made of the nitrogen and phosphoric acid, were twice as much as those which applied to fattening animals. When the food was given to animals giving milk, a much greater deduction was necessary, and Mr. Dickson had, in his Paper, pointed out the amount of this. What Mr. Dugdale, as a farmer, seemed to wish was that two or three series of tables should be published, in which such deductions for the amounts of valuable constituents retained by store animals or milch

animals were given. At present the farmer had to do it himself, and it was a matter requiring some thought, and was attended by some little difficulty.

That the conditions under which animals were fed influenced the value of the particular constituents of the food was, no doubt, the case, but perhaps he might once more repeat that in his Paper he had not attempted to take all the factors into consideration, but only those to which it appeared to him to be really possible at the present moment to give some moderately accurate value. That it was desirable that these figures should remain always without alteration he did not for a moment contend.

The President said he was sure all present were agreed that the Paper read by Professor Kinch was a very valuable one. It was of so eminently technical a nature as to admit of very little discussion by others than experts, but it could not fail to be very interesting to all who looked to the agricultural chemist for guidance in determining the value of the various feeding stuffs, and to surveyors in general, and must be particularly instructive to those specially concerned in flesh production for the market.

The value of heat, external and internal, was, undoubtedly, most important in proper proportions, and the determination of the residual manure constituents was a point on which the farmer especially required information. The Paper would have, through the medium of the "Transactions," a very large circulation, being sent to some thousands of persons practically connected with land throughout the country, and would also be very valuable for future reference.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

Paper 185.
No. 309.

LEASES TO LIMITED LIABILITY COMPANIES.

By E. G. WHELER (Fellow).

Read at the Ordinary General Meeting of The Surveyors' Institution, *Monday, April 25th*, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

The President, in opening the Meeting, said it was with great sorrow he had to announce that his esteemed colleague, Mr. Wm. Jas. Beadel, M.P., a short time ago President of the Institution, had (after an illness during which he for some time wavered between life and death) died on the 5th April inst., at his residence, Hutton Hall, at the early age of 63.

He was a man in every sense of the word—in stature, in ability, in integrity, and in general good common sense. He was highly appreciated by every Member who knew him, and even by those who were only acquainted with him by reputation he was respected for the rectitude of his professional conduct, his conspicuous honesty of purpose, and his great business qualifications. He (The President) knew of no one who was more—he might say—loved by the profession, and especially by the Council of the Institution, who, whenever any difficult or doubtful point had to be dealt with, could always rely on his sound judgment and practical experience for guidance and friendly advice.

In the House of Commons, where, if anywhere, a man found the level to which his abilities and force of character entitled him, he was esteemed not only by those who

shared his own political opinions, but also by very many who held entirely opposite views.

It was a long time since the Institution had suffered so severe a loss as that occasioned by Mr. Beadel's untimely death. The Council offered their sincerest sympathy to their late colleague's family, and in doing so felt that they were at the same time expressing the feelings of every Member of the Institution.

In the absence of the author, The Secretary then read the Paper as follows :—

The subject of the present Paper has not been, so far as I am aware, previously discussed.

In consequence of the largely-increased number of firms that now take advantage of the Limited Liability Acts, it is well for those in charge of landed estates seriously to consider the possible effect of granting tenancies on lease to them, taking into consideration the fact that the limitation of their liability to creditors necessarily means a proportionate loss of security to the lessor.

The remarks which follow apply more especially to colliery leases, but they also, in a lesser degree, refer, in part at least, to all leases to limited companies. The damages which may arise under leases, either through breach of covenant, neglect, or otherwise, are manifold, though difficult to specify; but there are few estate agents of experience who have not some knowledge of cases occurring, even when the lessees were private individuals, and therefore personally responsible.

There is, no doubt, a growing tendency towards the conversion of existing trading concerns into limited companies, as well as the working of new undertakings by the same method, and in several instances landowners have accepted such tenants as lessees of their collieries.

The system, in fact, is growing so common that any landowner who refused to recognise it in some form, would undoubtedly incur the risk of having his royalties remain unworked, and therefore, as a matter of policy, he may feel averse to be behindhand in recognising what may prove to be, eventually, an inevitable necessity; in fact, by no other means could the necessary capital, in some cases, be raised; for such is the speculative nature of mining operations that the general public would hesitate to invest in them but for the security afforded by the limitation of their liability to the amount of their shares.

Two points therefore arise which should receive the careful consideration of those responsible for the management of such properties.

1st. Whether some arrangement may not be devised which would reasonably secure the landlord in granting leases to limited companies, and would at the same time be acceptable to lessees without involving any complicated provisions; or

2ndly. Whether, assuming this to be impossible, a landlord is likely to be a greater loser by granting such leases generally, with the attendant risks caused by non-observance of covenants and otherwise, or by altogether refusing to grant leases to limited companies, and thereby, perhaps, retarding the development of his estates.

So far as I have been able to learn, those landlords who have accepted limited companies as their lessees do not appear to have adopted any system with the object of protecting themselves against the additional risks that they have incurred by their action.

It is clear, however, that if any system is to be efficient it must be framed on well-defined lines, which on the one hand will not hamper legitimate enterprise, and on the other hand will not be likely to encourage bogus companies.

It may now be convenient to draw attention to some of the main features which distinguish leases granted to limited companies from those granted to individuals, regarded mainly from a lessor's point of view.

The parties to be sued under leases are either the company—the persons named individually in the document itself—or those in possession under an assignment.

Now, where long leases, such as are usual in the north of England, and which are for 42 years, are granted to individuals, it often happens that none of the original tenants are in existence at the time when claims arise for breaches of covenant or otherwise. In such cases, it is necessary to ascertain who their personal representatives are, and this is often a work of much difficulty. No such difficulty, however, arises in the case of companies, and therefore in this particular it is convenient to have them as tenants rather than individuals.

On the other hand, where individuals agree to the observance of covenants, it is almost invariably the rule that no limit is placed on their liability under such covenants; but a landlord is at a disadvantage in dealing with a limited company, for no claim can be made on the company or the individuals composing it, beyond the amount of the assets, and uncalled capital, if any.

Again, in cases of insolvency, although it is by no means unusual for one or more of a number of lessees to become insolvent, and an opportunity of recovering damages against their estates is thereby lost, yet, as a rule, where reasonable care has been taken to obtain substantial lessees at the outset, one or more of such lessees will be found to fulfil all their obligations.

This by no means follows in the case of a limited company, even if it has a large margin of uncalled capital, for, although the shareholders at the outset may be highly

responsible persons, the landlord cannot prevent the free transfer of the shares, which may be conveyed to paupers, and, assuming that the company is not wound up within a year of the date of such transfer, a lessor would have no effectual remedy whatever.

It is obvious, therefore, that a simple requisition that the company should not call up a given proportion of its capital is not, in itself, an adequate protection to the lessor.

Again, different rules prevail in the administration of the estates of individuals, and of companies, who are insolvent. In the case of individuals, a lessor has a right to distrain for six months' rent. Apart, too, from the usual power of putting an end to a lease in such an event, he can compel the trustee in bankruptcy either to adopt the lease or to disclaim it, and the trustee becomes personally responsible for the rent and the performance of covenants, whereas in the case of companies the lease is absolutely at an end.

On the winding up of a company no right of distress for rent in arrear is enjoyed by the lessor. No power to disclaim the lease rests with the liquidator, and only by leave of the court can a landlord whose property is occupied by a company in liquidation, distrain for rent accruing after the date of liquidation; and, as a matter of practice, it is believed that the leave is very sparingly given, and only under special circumstances.

There is, moreover, no doubt that the moral effect of unlimited liability on individuals carries with it great weight, and causes each individual lessee to take proper precautions for the purpose of protecting himself and his estate from being called upon to make good any damages arising in the future; while, in the case of a company, too often these precautions are nobody's business, because no individual is sufficiently interested to make it worth his

while to see that they are carried into effect, and the actual supervision of the business is carried out by paid *employés*, who have no special interest in such questions, and are more likely to be anxious to consider the best means for obtaining a good dividend for the satisfaction of their directors and shareholders, even if risk of damage be incurred.

A colliery lessor's difficulties with limited companies are, moreover, by no means confined to cases of unsuccessful tenancies, and the following examples may, perhaps, fairly illustrate the difference which may possibly arise, first, if a colliery be let to individuals, and, secondly, if let to a limited company, supposing similar circumstances obtain in each case.

In the former case, we will suppose that the lessees, having accepted the lessor's terms, sink their shafts, &c. The coal proves good, and the enterprise successful. They make a good thing of it, and are, at the end of the tenancy, wealthier than at the beginning. They know that their private estates are liable to be come upon for all damages accruing both during and after the term of the lease. They are careful, therefore, to leave pillars and barriers of ample thickness, and do not work them, although the profit on so doing might be large, and in consequence, at the close of the tenancy, the damage done is trifling, and what there is they willingly pay for.

But, suppose the lease let to a limited company having ample capital, all of which is called up in developing the mine, so as to make the output of coal as large as possible, as it pays well, and enhances the price of the shares in the market. Consequently the coal, after a time, runs short, being nearly exhausted. To maintain their position as long as possible before the public, and also to net as much dividend as possible, the directors, having nothing to stake beyond the amount of their shares, and the managers having

no interest in the question, work every bit of coal they can, regardless of consequences.

Pillars and barriers are worked contrary to covenant, endangering the colliery and surface, and shortly surface settlement or subterranean flooding ensues.

The company is then wound up. The lessor finds his tenants have disappeared into thin air. Their finances may have been cleverly manipulated. Every available shilling may have been divided, the shares were long ago called up, and any assets there may be are more than covered by the claims of other creditors.

Before long he has a claim made upon him by adjoining surface owners for damage to their buildings, and, though the mine is laid in, they have to be satisfied out of his own pocket, to meet which liability he has, as compensation, some worn-out machinery, worth nothing but as old iron, and some dilapidated cottages, no longer required in the neighbourhood owing to the closing of the pit.

The following may be cited as a case in point which actually occurred:—

A colliery was carried on for many years by a private firm, and was then sold to a limited company with the consent of the lessor. The new lease contained the same clauses as that to the private firm.

The limited company went on well enough for several years, and then, owing to depressed trade, and probably bad management, they drifted into bankruptcy, and, although the lessor had reserved the power to take the certain rents monthly, and the royalty for overworkings half-yearly, it so happened that the rent was in arrear to the amount of about £3,000.

This, however, was not the worst loss, for several acres of coal in pillars were left, which were, in one of the workings, soon drowned out, as new tenants could not at once

be found, and these workings have never been re-opened owing to the great cost that would be incurred by so doing.

The claim made against the company amounted to an additional £9,000 for surface damage and loss of coal by drowning.

The lessor, in default of getting his rent, took possession of the colliery plant, but he was obliged to carry on pumping operations for several months until new tenants could be found.

The new lessees were able to work a portion of the coal that had been claimed for, but, after taking everything into consideration there was an actual loss of £2,000 to £3,000 for submerged coal, which to this day has never been worked.

Another lessor of adjoining minerals which had been let to the same lessees, but who had no pits nor plant on his surface, lost a considerable sum in rents, for which he had no security, and, as his minerals lay "*to the dip*," he had to bear the larger portion of the cost of the pumping to keep his coal clear of water.

It should, in fact, be noted that a so-called "foreign lessor" or owner of coals adjoining those of the original lessor on whose land the shafts are sunk and the cottages, &c., are erected, and whose coal can only be worked by "outstroke" through his neighbour's shafts, is without any real and distrainable security, and is therefore in a proportionately worse position by being so situated.

Under these circumstances several suggestions have been considered, in the hope of devising some method to get over these difficulties, and of securing lessors from the pecuniary risks to which they are exposed.

Amongst the most prominent of these were the following proposals :—

1st. That the company should only call up a portion of

their capital, and should give the lessor a debenture, by which a charge should be constituted on the uncalled capital, as well as upon the assets of the company for the time being, to secure the performance of the covenants; or,

2ndly. That the company should pass a resolution that a given proportion of their capital should only be called up in the event of their being wound up.

Both of these proposals, however, are open to the objection named above, that it by no means follows that, because there is uncalled capital, there are shareholders able to pay up the balance due.

Again, it was suggested that the company should deposit, or set aside, a certain sum as security to the landlord in case of a claim for damages on his part. It was, however, found impossible, under the Limited Liability Clauses Act, to give any prior lien on such a sum to the lessor, but that, in case of the company being wound up, it must of necessity be brought into hotchpot for the benefit of all the creditors.

Another proposal was made, which, it was thought, presented fewer objections than any other, though its novelty renders it necessary that it should be most carefully considered by all parties before its adoption.

It was that the lessees should obtain a guarantee in favour of the lessor, from some substantial trust or insurance company, limited to a sum to be agreed upon, but otherwise constituting a positive undertaking that the covenants and obligations of the lessees should be duly fulfilled.

This idea was based on the system of fire insurance, whereby the landowner secures himself, by a small annual payment, from a serious disaster, the risk of which is more than recouped to the Insurance Company by the number of annual premiums received from persons on whose premises no damage by fire occurs. So might an Insurance Company,

by the exercise of due care in the selection of the collieries insured, amply recoup itself for damages accruing in occasional cases, and which would be disastrous to the individual landowner.

The intricate state of the law of principal and surety is, perhaps, one of the chief arguments against adopting this proposal, but I have been advised that with care this might be overcome.

It will be noticed that the amount of claim under such guarantee was proposed to be limited, and therefore that loss by damage exceeding that amount would still fall on the landlord. It would, doubtless, be a matter of difficulty to fix upon a figure which, whilst not excessive, would provide against reasonable contingencies; and the fact that the landlord was not relieved of *all* risk would be a security to the insurance company that he would still exercise due vigilance over the lessee's actions during the term of the lease.

The form of the proposed arrangement was intended to have been somewhat as follows:—

1st. A policy to be effected by the lessees with the —— Insurance Company in favour of the lessor, by which the Insurance Company is to contract to indemnify the lessor against all loss or injury, whether arising from breach or non-observance of any of the covenants and provisions of the lease, or otherwise.

2ndly. The Insurance Company, as between themselves and the lessor, to be liable as principals and not as sureties.

3rdly. The amount of the liability of the Insurance Company under such policy to be limited to —— pounds.

4thly. The policy to provide that no premiums shall be payable after the end of the term, or the lessees' going into liquidation.

5thly. The lessees to covenant to pay all premiums for

keeping the policy on foot, to produce receipts for the same to the lessor, and to authorise him on the making of any default, to pay them himself, and to distrain for the amount thus paid.

It will be seen that by this means the lessor would have been secured in precisely the same manner that a landlord is secured, by a covenant on the part of his tenant to insure his house against accident by fire.

In both cases the insurance would stand in the name of the landlord, but the premiums would be paid by the tenants.

Negotiations were opened with one or two companies, whose advisers at first seemed disposed to entertain such insurances at moderate rates, viz., from 1 to 2 per cent., but their directors eventually declined, fearing to incur frequent losses at early periods of leases before many premiums were paid, and that they might thus fail to obtain such a margin of profit as would cover their losses. They did not, it was believed, sufficiently recognise the fact, that in such cases the chances of damages arising were proportionately remote, and might have been still further obviated by care being exercised as to the character and substance of the companies they undertook to insure.

I am still in hopes that some enterprising company may see its way to develop this class of business. Some difficulties would have to be overcome, and some mistakes might be made. Experience only could establish the insurance of new risks on a firm basis, or teach the exact rate of premium that would suffice to recoup the insurance company, but as by far the larger number of respectable collieries would be fairly and honestly conducted, and, as previously pointed out, the active co-operation of the landlord as regards supervision would be secured, I cannot think these difficulties would prove insurmountable.

Failing the successful issue of the above proposal (variations of which might be suggested), it has been found necessary to fall back on a simpler course which may prove a fairly satisfactory protection to very large landowners, but in the case of small ones must be far from satisfactory.

It is that the lessor should charge the company a somewhat higher royalty rent than would be demanded of individuals, such extra rent to be set aside by him, and paid as premium on a policy which he himself effects, entirely independent of the lessees, insuring such a lump sum to be paid clear of deductions at the end of the lease, as shall, in his opinion, suffice to recoup him any loss he may be likely to sustain, or if preferred he may invest the extra rent as a sinking fund for this purpose.

It is true that the same difficulty arises again as to estimating the probable amount required. No fixed rule can be laid down, and I fear that common sense and "rule of thumb" will be all that the lessor's advisers will have to guide them. Possibly from 2 to 5 years' probable rents may be considered reasonable, according to the circumstances of the case, though in many localities it might be insufficient.

This royalty rent, being a direct charge upon the actual output of coal, would have the advantage of being to some extent self-regulating, as the greater the output, the larger the extra rent, and the greater also the risk of damage being caused, and *vice versa*.

This extra rent, charged on account of the advantages gained by the lessees, owing to their liability being limited, might have some effect in checking the establishment of limited companies to any unnecessary degree, and would be, so far, advantageous; but its disadvantage would be that, in the case of a colliery being wound up before the end of the lease, the burden of sustaining the premiums must fall

upon the lessor, unless he had adopted the system of a sinking fund. He must, moreover, wait till then before he can be recouped for his losses by damage which may have been sustained several years previously.

The owner of many collieries may be assured against disaster, by setting his extra receipts in the shape of increased rents in fortunate cases against his loss in an unfortunate one, but a small landowner has no such opportunities, and he may be seriously crippled by the failure of one limited company.

Before concluding, it may be well to call attention to the fact that a colliery lessor is in a worse position than an agricultural landlord.

The latter very generally lets his lands under a yearly agreement, and even if its covenants are disregarded he can put an end to it at short notice, though notwithstanding these powers, he is, in practice, very frequently a loser owing to dislike to take action against a tenant until absolutely obliged to do so.

An ordinary creditor is bound by no such considerations, and can proceed to recover at any time.

A colliery lessor, on the other hand, is obliged to tie himself up for, say, 42 years to lessees whom he cannot eject, though *they* can give *him* a year's notice at any time. The coal is his capital, though it must be confessed that most lessors look upon it as income.

At the end of the lease or sooner winding up of the company, he may find that the colliery is full of water, requiring a large cost in machinery and labour to clear it, and if, as is commonly the case, it arises from old adjoining workings having been carelessly tapped through the improper perforation of the barriers, this may be practically impossible and the mine may be ruined; or worse still, the pillars may have been left of insufficient strength, and even *after* the

colliery is closed surface shrinkings and damage to buildings may ensue, for which, in the absence of substantial lessees, the lessor is responsible. In this case his liability may be enormous if large works are in the neighbourhood.

Of course it may be said that the colliery agents would prevent such breaches of contract, but we all know the difficulty of accurately checking all that goes on underground, and that it is, in fact, not feasible always to do so.

Fair and reasonable protection to himself should therefore be secured to the lessor as far as possible, lest he find himself suddenly and unexpectedly sustaining heavy losses, caused by no action of his own, but for which he has unwittingly become responsible.

It may be argued that there cannot be much in this question, as the Limited Liability Acts have now been in force many years, and that it must have been threshed out long ago, had the necessity arisen.

My answer is that the almost universal application of these Acts, especially to collieries, is of recent growth, and, as leases are granted for long terms, it is obvious that the damages apprehended are not likely to arise in a general way until these leases have run for a lengthened period.

At the same time, if it be a fact that but few cases of difficulty have arisen though several such leases have been granted, may it not be taken as an argument that the suggested system of insurance may be tried without much risk to the insurance company?

I have brought forward this question, less with the view of imparting information, than with the hope that by ventilating it and inviting discussion, it may receive attention, and that experienced estate agents may suggest or devise a method of meeting the difficulties involved more successfully than I have done; and whilst, on the one hand, they may see their way for the lessor to be protected from loss, they may,

on the other hand, enable him to meet the spirit of the times, by assisting him to offer, with confidence, such terms to limited companies as will give them reasonable facilities, and which they may see their way to accept, without fear of prejudicing their credit, or damaging the price of their shares in the money market.

In conclusion, I beg to say that it is to me a matter of regret that this subject has not been presented to you from a legal point of view.

There are many technicalities involved which are beyond the understanding of a layman, some of which I have been able to touch upon, owing entirely to the kind assistance of legal friends; but one cannot but feel that it is by a legal mind only that they can be efficiently and thoroughly considered, and applied to the points in question, and it is from this aspect especially that I shall be particularly anxious to hear the opinions of those qualified to express them.

Mr. J. Cross (Fellow) said he had great pleasure in proposing a vote of thanks to the author of the Paper, which dealt with a subject of very great interest to the Members of The Surveyors' Institution. It was not, perhaps, a matter with the practical details of which everyone was acquainted, but it must be interesting to all landowners and managers of estates, and particularly so to those who were connected with mining property. He himself had something to do with coal mines, although he was not well acquainted with other mineral property; but all mines came more or less under the conditions set forth in the Paper.

He did not think the suggestions made by the author could well be carried out in practice. He thought the lessor must be left to take care of himself in the matter of the value of his minerals. The limited liability principle had certainly increased competition, and of this competition

the lessor had the benefit in the shape of improved rents. Of course he might demand an extra rent to cover his insurance, but it was not always certain that such a demand would be acceded to. It was all a matter of competition, and the limited liability principle had, without doubt, introduced a great many more competitors than would have been in the field if it were left to individuals to undertake the risk inseparable from mining ventures. There were some cases in which the system had, no doubt, operated against the lessor, but he thought in the great majority of cases the lessor had benefited, and that coal mines had been worked which would otherwise never have been touched.

According to his experience, money invested in coal mining had not for a long period of years produced any very extraordinary rate of interest. He knew of undertakings in which large sums had been invested, but which had never paid more than 5 per cent., and in such cases he thought the lessors had made more profit from the working than the lessees. The latter took all the risk. They not only had the risk of carrying out the works to a successful issue, but they had also the risk of the market, and he thought the whole matter could not be fairly regarded as anything beyond a commercial transaction between the parties.

The lessor owned minerals deep down in the earth, and he sold it to the lessee, who took all the risk of getting it, and agreed to pay a minimum rent, which was often a very onerous burden on his enterprise, but which he was still compelled to pay although a number of totally uncontrollable circumstances might prevent his obtaining an output of coal sufficient to cover the payment. He knew of cases where £20,000 or £30,000 had been so expended, which could never be recovered within the term of the lease, and in such cases there was a great loss to the lessee. He did not,

therefore, think, judging by his experience, that the suggestions put forward by the author of the Paper would be practicable. The lessor must, if he wanted a sinking fund, lay aside sufficient to clear the risk.

A slight extra risk might perhaps be created by the working of the Limited Liability Act, but it was in no case a very important matter. It was true losses might occur where water lodged at a higher level was brought down to a lower level, and where tapping the water would destroy the workings, but he did not know any instances of workings of that kind. Such accidents did sometimes occur through the fault of incompetent managers, and this was one reason why private individuals would not become responsible for the leases of mines, and undertake the risk of such a loss as this would entail. He knew an instance of a colliery lease, granted about 100 years ago, for 999 years. The conditions were very stringent and very much to the point, but it worked tolerably well at the present day. The lessee who took the lease at that time, and his successor, subleased to a limited company, who were alleged to have committed certain rather serious breaches of covenant. The matter was still pending. The individual in question, though only an intermediate lessee, secured a much higher rent than the original lessor, and got the benefit of it by re-letting it to a limited liability company. He took the risk certainly, but he also got the benefit of the increased value, which substantially amounted to an insurance against that risk. A company leasing a mine had to find a large amount of capital, and, as he had said before, they had to run the risk of finding the coal, or other mineral, in a workable position and in a profitable quantity, and had, besides this, to stand the chances of the market, and to run every risk attached to the undertaking, and they ought, therefore, to be shown some consideration. Private individuals would not now

start such undertakings, but limited liability companies could be found to work large ventures of the sort.

A great many companies were formed with too large a capital—often much more than the property was worth—and when they had difficulties to contend with and could not easily pay dividends on such a large amount, methods of working were resorted to, which, in the early years of the lease, retarded the future development of the mine.

The subject dealt with in the Paper was a most interesting one, and he wished he had been prepared to go as fully into its details as its importance in many ways made him desirous of doing; but at such short notice he must content himself with expressing his obligations to the author for his very interesting Paper, and moving a cordial vote of thanks from the Meeting for the very evident care and thoughtfulness with which it had been prepared and brought forward.

Mr. A. Harston (Fellow) said he had much pleasure in seconding the vote of thanks to Mr. Wheler, the author of this interesting Paper. He (Mr. Harston) was one of those—and there were very likely several others present—who had never been down a coal-mine, and he could therefore add very little to the information afforded by the Paper on the subject. But it was, nevertheless, very interesting to him, if only as showing the large range of subjects with which the Institution dealt. He took it, however, that the object of the Members in attending these Meetings was not only to give information, but in a very large measure to receive it.

He had very little to do with limited liability companies under such circumstances as those narrated by the author of the Paper, but his connection with building operations and building contracts for public authorities had brought him on two or three occasions in contact with

limited liability companies as contractors. He had felt it his duty to warn his clients, the public authorities, that a limited liability company with their capital all paid up was not a very substantial firm of contractors, and that occasions might arise when they would not be able to carry out their undertakings. As showing that his caution was not unjustified, he might mention one case in which a limited liability company was a mere cover of the man supposed to be the manager, as he believed was not infrequently the case. The contractor had, under the contract, to carry out certain works and to keep them in repair for some time, but the company was wound up shortly afterwards, and as, notwithstanding his (Mr. Harston's) warning that the company were not substantial contractors, his clients had accepted the contract. The consequence was they were left in the lurch, and the repairs and maintenance which were to be carried out in future were not done at all. The grand *dénoûment* in this case was that the manager of the company was imprisoned for fraud within six months of the acceptance of the contract. He could not say that this case had induced in him any extra precaution in dealing with limited public companies, for the necessity for such precaution was fully present in his mind before ever the contract was undertaken, as was evidenced by his very urgent warnings to the board for whom he was engaged in that particular case.

Mr. F. K. Munton (Associate) said there was an appeal in the Paper to lawyers to take part in the debate, and, if only for that reason, he was glad to have the opportunity of speaking on the subject.

The Paper began by stating that the writer was unaware of the matter having been discussed on any previous occasion, and at the end he expressed regret that it was not approached from a legal point of view. He (Mr.

Munton) ventured to think that no person with a legal mind would have approached the subject at all in the form in which Mr. Wheler had dealt with it. As far as he knew, there was no necessity whatever for attempting any out-of-the-way legislation in respect of colliery leases, or any other leases, to limited liability companies.

Having been recently concerned in the winding-up of an enterprise, in which a million of money had been sunk within three years of the formation, he had hoped to get some information of assistance to those closely associated with limited liability companies. Although it was a very ungracious task to criticise a Paper produced at the cost of much trouble and thought, and the author of which had his personal respect, he was bound to speak adversely on almost all the statements advanced. If the Paper had been entitled "Limited Liability Colliery Lessees," one would have been able to deal directly with the points raised, but while it seemed to profess to be concerned with leases to limited liability companies generally, with the inference that some special law, or some special practice, should be adopted in order to make those leases of value to the lessors, it really only dealt with one class of case.

The Paper might have been suitable for reading, say, at Newcastle-on-Tyne; but he felt sure that even there, the lofty tone which Mr. Wheler had adopted would have been resented by many of the more advanced political economists. He (Mr. Munton) was himself a landlord, and was not likely to say anything against protection, but under all circumstances he thought that landlords ought to be thankful, at such a time as the present, to get limited liability companies to work their collieries; and it was an unwise thing for Mr. Wheler, through The Surveyors' Institution, whose "Transactions" circulated throughout the country, to adopt a tone which seemed to infer that every-

thing was to be regulated for the purpose of benefiting lessors. On looking through the Paper there appeared, if he might venture to say so without offence to the writer, some extraordinary inconsistencies. In his profession it was said that hard cases made bad law; in this instance hard cases made bad arguments.

At the beginning of the Paper the author said:—"The "remarks which follow apply more especially to colliery "leases, but they also, in a lesser degree, refer, in part at "least, to all leases to limited companies." The word "lesser" was not diminutive enough, for it seemed to him that there was very little indeed in the Paper that applied to ordinary leases. He had been concerned with many limited companies, not only the one to which he had referred, but others of less notoriety; and he had seen no inconvenience arise from the lessee being a limited liability company as contradistinguished from an ordinary single lessee; indeed, in the latter part of the Paper the author owned that "it is a very common circumstance for an "individual lessee to become bankrupt or insolvent"; thus cutting away the ground from under his own feet.

The author asked, with apparent surprise, why lessors had not adopted some system to avoid the difficulties involved in leases to limited liability firms; but the first point to consider was whether there were any difficulties to avoid, for, if there were not, it was useless to discuss the methods of dealing with them. The author went on to say:—"Such is the speculative nature of mining operations, "that the general public would hesitate to invest in them "but for the security afforded by the limitation of their "liability." That was a reason, on the face of it, why landlords should be desirous of getting limited liability companies to become the lessees of their property, and be thankful. It was not unusual in special cases where there

was reason to suppose a limited liability company was not of such a substantial character that one would wish them as tenants, for the lessor to require one or two responsible persons as nominal lessees. The matter was a question, however, of demand and supply, and if in such exceptional cases no such responsible persons could be found the landlord need not grant the lease.

The author of the Paper appeared to hold a brief for some large colliery owner, and was pleading his case very much as counsel in court might in an action against a lessee for breach of covenants. It was said in exalted language :—"It would not do to encourage bogus companies." He (Mr. Munton) thought that landlords had nothing to do with encouraging bogus or other companies. The question for them was whether it was better to have tenants willing to work their property, or let the same remain unlet.

In the case of getting possession under the clause for re-entry, there was practically no greater difficulty with a company than there would be with the private individual, who, as the author said, "frequently became bankrupt." Much was said of the disadvantages that lessors suffered when a company got into liquidation, and an attempt was made to draw a distinction between a limited liability company going into liquidation and a private individual becoming bankrupt. It was the fact that there was a trustee in Bankruptcy in whom the property vested, while in the case of a company it was not so ; but in all well-drawn colliery leases there was a proviso for re-entry on non-payment of rent; and although it was true that a lessor could not distrain for six months' rent, there was a process by which he could apply to the court to recover his property, or to have the rent paid in full. If the company had not got the money to pay, then he was only in the same position as if

he granted the lease to the "frequently insolvent" private individual.

The author said that when a company is wound up the lessor finds his tenants have disappeared into thin air, "and "any assets there may be are more than covered by the "claims of other creditors." There was a suggestion in these words, as he read them, that for some reason, if arrears of rent were due to the landlord, he could not recover it at all, but, as far as he (Mr. MUNTON) knew, the landlord was in the same position as other creditors, and could prove for his claim. Then the author said, "Several "suggestions have been considered." Where had they been considered? He had not heard of any solemn conclave, either in London or elsewhere, to consider such extraordinary suggestions. He desired to impress on the Meeting that it was an unusual state of things, although the author presented these grievances as in urgent need of being remedied. He thought they must be of a very exceptional character indeed, and he was sorry to see an attempt made to represent them otherwise. One suggestion was that the landlord should be a debenture holder, which was a rather astonishing proposal, unless it were argued that the company was formed for the sole benefit of the landlord. Then the suggestion was made that a certain proportion only of the capital should be called up, and the author proceeded to say:— "Both of these proposals, however, are open to the objection "named above, that it by no means follows that, because "there is uncalled capital, there are shareholders able "to pay up the balance due." The whole tone of the Paper seemed to be that the shareholders were unworthy of consideration, and that the lessor should have extraordinary powers to secure himself under every conceivable circumstance.

Something was said about its being impossible, under the

Limited Liability Clauses Act, to give prior liens to a lessor; as, in the case of a company being wound up, every fund must of necessity be brought into hotch-pot for the benefit of all the creditors. It was much to be regretted that some case illustrating this was not officially quoted, so as to enable one to appreciate the legal points said to have been laid down. Then it was proposed that lessors should get a guarantee company to undertake that the rent should be paid, and the covenants of the lease carried out; for it would be extremely easy, it was said, for a guarantee company to make proper inquiries as to the stability of the lessees. Surely if this were so the landlord could make these enquiries himself.

The author acknowledged that few cases of the sort mentioned had actually arisen; and as limited liability companies had been in existence for a long time, this very acknowledgment destroyed most of the arguments in the Paper, and disproved the necessity for exceptional legislation or extraordinary covenants. He (Mr. Munton) ventured, with all deference, to say that the alleged grievances existed only under some isolated circumstances, and he recommended that great care should be taken that the Institution did not in any way lend its weight or sanction to the belief that the difficulties which Mr. Wheler pictured existed, or were likely to arise, to such an extent as made them worth serious consideration.

Mr. J. F. Oswald (Visitor) ventured to characterise the Paper as an able, carefully-written, and thoughtful essay upon a difficult subject. It might be that the author had rather accentuated the supposed distress of the unfortunate owner of minerals; but still he had put his finger upon difficulties the knowledge of which might be useful to surveyors in practice.

But it might be as well to correct one or two slight errors in the Paper. For instance, the author stated the case, in the event of the winding up of the company, too strongly against the lessor. He said the lease was thereby ended. But, with all deference to him, it was not thereby ended. The lessor had a right to prove, on the winding up of the company, for damages owing to breach of covenant, and even to prove for damages which might reasonably be held to be prospective. He had a right also to prove for the rent to accrue in future under the lease as a contingent liability, as was held more than a quarter of a century ago.

Further than that, Mr. WHELER was not quite right about the position of the liquidator who remained in possession of premises occupied by a company in liquidation. If a liquidator remained in possession of the property, and worked the property, the royalties and rent must be paid out of the assets of the Company in priority to every other debt, and when Mr. WHELER said that a judge would scarcely ever give any liberty to distrain he was not quite right, for in his (Mr. OSWALD's) experience, such liberty would be given as a matter of course. The judge would say, "Pay, or there will be liberty given to distrain." So that there was nothing to fear in that respect.

He did not think any of the remedies proposed in the Paper were of much practical use, excepting perhaps one. They were ingenious and thoughtful, but he thought, practically, they would not be found to work.

He would first take the most ingenious, viz., insurance. There was no analogy whatever between insurance against breaches of covenant in a lease and insurance in an ordinary way against damage by fire. How did fire insurance offices prosper? simply by the enormous number of insurances effected in comparison with the small number of losses incurred which, of course, enabled them to take risks at very

small premiums so that all could afford to assure. But the law also protected the company who assured property against fire, by making it criminal to wilfully set fire to it. Everyone had heard of such a crime as arson ; but how was it possible to apply the law of arson to a person who deliberately and wilfully committed breaches of covenant because he had an insurance company at his back, and could get them to pay all damages? Then, again, the risk would be very great, as had been pointed out. The author said in his Paper :— "But the directors eventually declined, fearing to incur "frequent losses at early periods of leases before many "premiums were paid, and that they might thus fail to "obtain such a margin of profit as could cover their losses." He ventured to say that no company could be found that would incur such a risk, except at prohibitive premiums, and no lessee could be found who could afford to pay the premiums to such an extent as to give protection by means of insurance.

The only thing which he thought that the lessor could rely on was a stringent clause for re-entry, and determination if necessary of the lease by that means. He would also advocate (and he thought surveyors would support his suggestion) that there should be a vigilant inspection by a competent surveyor from time to time, in order to see that the covenants had not been broken. It was too often the case that landlords were not sufficiently vigilant in employing competent persons to inspect their property ; but he thought the real remedy was to have a stringent provision in every lease, which should be carefully settled by qualified persons, for a right to inspect during the term of the lease, in order to see that all the covenants were complied with. He did not think that there was any real hardship on the lessor, for, through the medium of limited liability companies, property was often developed and improved which would

have remained unworked if private enterprise alone were relied on. Individuals would not incur the risk and expense of operations where, by means of a company, the liability could be divided and limited. That was, he supposed, the reason why the practice of limited liability companies' working mines obtained so extensively, and had so greatly increased of late.

Any individual commencing to work a new mine laboured under great disadvantage, and incurred great risks, for until the working had made considerable progress it was impossible to tell what expense would be involved or what profit he might expect to realise. There was no reason why the lessor need let to bogus companies; and he had heard of cases in which a higher dead rent and higher royalties were charged to a company than to an individual. The author spoke of dealing with companies that did not call up all their capital, by which, he supposed, was meant those working under what was called Sir Stafford Northcote's Act (the Companies Act, 1879), under which the joint stock banks transformed themselves into limited liability companies, with certain capital that was not liable to be called up except for the purpose of their being wound up.

The author maintained that it was desirable to have contracts only with companies in this position—with £10 shares, say, and £5 paid up, while the company is going on, and another £5 not to be paid up except when it is wound up. That would, no doubt, be a desirable company to get to work minerals, but a landlord must deal with a company as he found it; and as a matter of fact that class of company was not very numerous. He thought that the landlord of minerals in receipt of royalties and dead rent was not in so very unfortunate a position, and that on the whole he got a very fair share of the "unearned increment" consequent on the working.

He thought, as he said before, that the Paper was a very useful, and he might almost say a learned one. It dealt with the subject thoughtfully and well, and if its effect should be to call closer attention to the importance of the covenants of a lease, whether to a company or an individual, and to the necessity for a periodical and minute inspection, to ascertain whether those covenants were being fulfilled, it could not fail to do good, and to be of assistance to the members of the surveyors' profession.

Mr. W. Mathews (Fellow) said he rose chiefly for the purpose of pointing out one or two advantages where leases were granted to companies of limited liability. Of these, the chief, as it appeared to him, was that great facilities were thereby given in the operations between lessor and lessee, and in the way of raising additional capital.

He knew a case in which some very large ironworks had for some time been worked on the principle of unlimited liability, but where it was found impossible to make any further progress unless the whole of the machinery was reconstructed and brought into accordance with modern requirements. That could not be done, because several of the lessees were minors; and, if the concern had not been converted into a limited liability company, the difficulty could not at that most critical juncture have been met. It seemed to him to be necessary that the lessor should take care that the lessee, at the commencement of his lease, fulfilled his fundamental liabilities, just as the lessee of a house ought to do. As the lessee of building land covenants to erect a house, so the lessee of mining property ought, without delay, to sink for minerals, and the lessor should take care that the lessee was furnished with sufficient capital to prove the mines. If, when the mines were proved, they did not yield a profit, it was impossible to keep the work

going, and it mattered not at all whether the company liquidated or the mine was closed in some other way. It was not possible to get rent from a property unless it earned a profit. Those were the two points which he wished to bring before the attention of the Meeting.

Mr. Wm. Woodward (Fellow) said he certainly came down to the Institution with considerable alarm, fearing that, as the Paper was said to apply not only to mining leases, but in a lesser degree to all leases, it might possibly be that leases to limited liability companies were different in law from leases to ordinary individuals. He had been somewhat startled to hear with regard to mining leases that there was no power of ejectment; but he felt relieved when told by the learned gentleman who followed that such a power did exist in the case of non-payment of rent and non-compliance with ordinary covenants. The parts of leases that most concerned surveyors in London were the repairing covenants, and the question he had wished to ask the writer of the Paper, and which he thought had been thoroughly answered by previous speakers, was whether there was any legal difference as regards repairs between covenants in a lease to a limited liability company and covenants in a lease to any private individual? He concluded from the statements of speakers who preceded him that there was no difference.

The next question which arose was, supposing a transfer of lease from an ordinary individual to a limited liability company, would the responsibility for compliance with the covenants be altered, or had the lessor the same power for re-entry for non-payment of rent and breach of covenants to repair as he would have if the transfer had not taken place? Again, supposing an ordinary assignee of a lease failed to carry out the covenants, the lessor had the power to call on the original lessee to secure compliance

with those covenants; and he thought it should be clearly stated, if such were the fact, that there was really no difference in this respect between a lease to a limited liability company and a lease to an ordinary individual.

He agreed with the last speaker in thinking that the Paper was a very thoughtful one, but though it had left considerable doubts in his own mind, those doubts were now completely dispelled by the remarks of the two learned gentlemen who had spoken upon it.

Mr. A. King (Fellow) thought that some of the misapprehension concerning the Paper which was apparently felt by one or two previous speakers, arose, perhaps, from the somewhat unhappy designation affixed to it, but that misapprehension had been in a great measure cleared away by the discussion.

It was, at times, quite impossible for a landowner to choose his tenants. It was often necessary to take the best offer available, and in some cases the person who made the offer might be the representative of a limited liability company. If such an offer as that were not accepted the property might remain unlet for some considerable time. He remembered one not far from where they were assembled, which remained fallow for some years. Eventually a limited liability company took the place in hand and expended no less than £60,000 in improving it and making it fit for the purpose of the undertaking they proposed to carry on there. Subsequently the company failed, but the money they had laid out on the property so considerably increased its value that there was but slight difficulty in obtaining a good, solid, substantial tenant at even a larger rent than the company had previously paid. This showed that although limited liability companies might sometimes be so unfortunate as to go wrong, yet at the same time the

very lavish way in which their money was expended was an advantage to the landlord, as it improved his property and enabled him to obtain a higher rent for it, should it at any time fall into his hands by reason of the company's winding up. He did not know or profess to know much about coal-mining or the conditions under which it was carried out, but he was glad to be informed that, speaking generally, the liabilities of a limited liability company to a lessor were practically the same as those under which an ordinary lessee was placed.

The President, in summing up the discussion, said he agreed with several of the speakers, and he believed with the Members present that the Institution was indebted to Mr. Wheler for bringing this subject forward in so able, lucid, and practical a manner. Although the author of the Paper seemed to have taken a rather gloomy view, he thought the atmosphere had been very much cleared by the discussion which had followed, shewing that there was not really so much danger as was apprehended, and that the right of distress existed together with the right of putting an end to the lease for non-payment of rent or non-observance of covenants. These rights seemed to afford a fairly secure remedy for the landlord or lessor.

With reference to what Mr. Oswald had said, he thought if the lessor of a colliery, or of building property, were to instruct a surveyor to make a careful inspection at least once in every year, or to make such an inspection himself, it would be very useful from every point of view, and especially valuable in the case of mines where pillars and other supports were required to be left or erected.

The discussion could not fail to add considerably to the general knowledge of the subject, and it was probable that, had the suggestion of one of the speakers been adopted for

the alteration of the title of the Paper, a great many valuable points would have been missed, and much useful discussion would not have taken place.

He felt sure, therefore, that the Members present would heartily pass the vote of thanks, which had been duly proposed and seconded, to Mr. WHELER for his valuable Paper.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

Paper 186.
No. 310.

THE SCIENTIFIC STUDY OF TIMBER.

By G. E. S. BOULGER, F.L.S., F.G.S. (Associate).

Read at the Ordinary General Meeting of The Surveyors' Institution, *Monday, May 9th*, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) IN THE CHAIR.

It is, I think, a simple statement of fact to say that at present engineers, surveyors, and even timber-merchants recognise most kinds of converted timber (of which alone I am about to speak this evening), not only as to kind, but also even largely as to quality, by methods obviously and confessedly empirical.

In standing timber we often have foliage, flower, or fruit to guide us, in addition to that most important character, the ramification, or caulotaxis; and in unconverted timber we have the bark and often various superficial indications of internal disease or defect, or of probable inferiority. All these indications are absent in converted timber. Not only are we generally at present dependent upon "rule of thumb," but for many of the ordinary purposes of business we must, no doubt, necessarily, for the sake of rapidity of work, continue to be so. In the examination of wood, once for all, however, as in the testing of the comparative utility of various species or varieties, in the inquiry as to the value of new foreign or colonial timbers, or in the selection by sample of large quantities of timber for important works of construction, a more thorough and more scientific estimate might well be applied, and it would be well if more uniform methods of testing were adopted. In any work of con-

struction, for example, it is not only desirable, but practically essential, that the minimum strength of the materials employed, that strength which alone should be reckoned upon, should be known. The approximate durability of timber—the only material with which I am concerned—is also a matter of supreme practical importance; and, although, as the conditions under which it may be placed will vary, it is not possible to foretell this exactly, it may be very closely approximated—more closely than has hitherto been usually done.

It might seem unnecessary to insist that for any accurate knowledge of timber it is at least just as well to be acquainted with the latest results of scientific investigation into its minute structure, and even into its physiology and pathology. At the present day, moreover, when exact methods have, with the advance of science, found their way into so many branches of trade, one need not fear ridicule in advocating the use even of the microscope in such investigation. If, however, we turn to most of the recognised manuals for professional students, we find the information about the minute structure, growth, physiology and pathology of timber either altogether absent, extremely meagre, or hopelessly antiquated and inaccurate. In Tredgold's "Carpentry," as edited by Mr. E. W. Tarn in 1886, this part of the subject is professedly based upon Rhind's "History of the Vegetable Kingdom," a work published in 1840, and, even then, not very satisfactory. In Mr. Thomas Laslett's "Timber and Timber-trees" (Macmillan, 1875), a generally admirable work, the account of the general anatomy of timber, though having the advantage of a few illustrations, is but meagre, as it is also in the extremely accurate and valuable, though anonymous, "Notes on Building Construction," issued by Messrs. Rivingtons (Part III., chapter v.). In the late Dr. Franklin B. Hough's

"Elements of Forestry" (Chicago, 1882), this part of the subject is treated in a very elementary manner, though with fair accuracy of statement, but far too briefly.

It is not, I think, asking too much in the direction of scientific education to require that those practically concerned with timber should know as much about its microscopic structure as is contained in the admirably illustrated first chapter of Professor MARSHALL WARD's excellent little book, "Timber and Some of its Diseases" (Macmillan, 1889). Dr. ROBERT HARTIG's little book, translated by Dr. SOMERVILLE as "Timbers and How to Know Them" (Nimmo, 1890), though containing rather minute descriptions of the microscopic appearance of 76 different woods, some of which, such as the rose, the vine, and the barberry, cannot be called timber, has in it no general exposition beyond a glossary as to the structure of wood. Such microscopic examination of woods will prove useful not only in the specific identification of timbers, but also in the more difficult and often even more important discrimination between varieties of a single species. The same species from different districts, or grown under different conditions, may yield timber varying considerably in character, and, not improbably, in quality; and, though such differences will often be found, on the careful examination of the trees in bark, branching, leaf, flower, and fruit, to correspond to slight botanical distinctions, for practical purposes it is most important that such distinctions should be correlated with those of the timber. It is, therefore, useful to have a comprehensive classification of woods, based exclusively on characters presented by converted timber.

The difficulties in the way of such work are numerous. As regards not a few valuable exotic woods, some of which, such as the "Ballow," of North Borneo, or the "Pink Ivory" of Natal, may at no distant date come

into use, either for constructive or ornamental purposes, we are as yet altogether ignorant of the botanical characters or position of the trees from which they are derived. As to others, even well-known native species, uncertainty is introduced by the ambiguity of the names used for them in commerce, and in some cases botanists have increased rather than diminished this ambiguity by minimising or altogether overlooking the facts of variation. The willow-wood, for instance, used in England, valuable from its non-resinous, and consequently uninflammable, character, its lightness, freedom from splinters, and durability whether in air or water, is mainly the product of *Salix alba*, though partly *S. Russelliana*, whilst, according to Mather, *S. fragilis*, the redwood willow, or stag's-head osier, produces the best timber, and is used in Scotland in ship-building, and in France the wood of *S. Caprea*, our goat-willow, is preferred. Poplar wood, again, is but little used in this country, though in France and Germany both *Populus canescens* and *P. fastigiata* are used for packing-cases, and *P. tremula* for flooring, as is *P. monilifera*, the most rapid-growing species, in Switzerland and North Italy. We, however, import from New York increasing quantities of a wood sometimes known in Liverpool as American or yellow poplar, and at other times as American whitewood, or canary whitewood. This is no poplar but the tulip-tree (*Liriodendron tulipifera*), a member of the magnolia family. Grown only for ornament in Europe, in America this tree is largely used for rafters, wainscots, roof-shingles, boxes, furniture, and turnery. The nature of the soil is said to have so marked an influence on the wood that in West Virginia three varieties are distinguished as "white," "blue," and "yellow poplar." The yellow alone is commonly shipped to this country, coming from moister low-lying ground. It comes in waney logs or large planks, command-

ing a price equal to Quebec yellow pine (*Pinus Strobus*), and is now valued, for staining or polishing, by cabinet-makers, shop-fitters, and coach-builders. Its name "whitewood" might cause confusion with the spruce (*Picea excelsa*), the "whitewood" or "white deal" of the Baltic trade; but the confusion among the coniferous woods themselves is quite sufficient without any new element of discord. Dr. F. B. Hough* and Mr. W. Stevenson† both speak of the varieties of *Liriodendron* as unrecognisable by outer characters and as purely due to soil, but F. A. Michaux‡ terms the more valuable "yellow wood" *L. tulipifera*, var. *obtusiloba*, indicating that there is a difference at least in the foliage as well as in the wood. The name "tulip-wood," used by Mr. Stevenson, is unfortunate, being commonly applied to the handsome Brazilian wood of the Lythraceous *Physocalymma floribunda*, though a Meliaceous wood of New South Wales, that of *Owenia venosa*, and *Harpullia pendula*, in the same colony, have received the same name. Carpenters call all white deal "spruce," red and yellow deals from the Baltic "fir," and similar woods from America "pine," though both the last, at least, are products of species of Pinus. Take as a sample of confusion the trade name "yellow pine." In New Zealand, *Dacrydium Colensoii* yields a useful timber, so called. In British Columbia *Pinus ponderosa* yields "yellow pine"; in Quebec, *P. mitis*; in Nova Scotia, *P. Strobus* or *P. rubra*; and in the middle and southern United States, *P. australis*, to say nothing of "yellow deal" from *P. sylvestris* in Europe, and some half a dozen different "yellow woods."§ If we

* "Elements of Forestry," p. 251.

† "The Trees of Commerce" (1889), p. 101.

‡ "The North American Sylva" (Philadelphia, 1865).

§ Including the Coniferæ *Podocarpus latifolius* and *P. elongatus* of South Africa, besides several dicotyledonous angiosperms, some of which are used as yellow dyes.

conversely take a single species, the wood of which comes to market under a variety of names, we find an equally confusing ambiguity. *Pinus sylvestris*, familiar to us as the Scots (*anglice* "Scotch") Fir, it is proposed by Mr. HURST, in his edition of TREDGOLD, to call "Northern Pine" in consideration of its wide distribution in Northern Europe. Most writers on timber treat the varieties of this timber as if they were due solely to soil and climate. Thus, Mr. STEVENSON says of it: * "On poor soil, at great "elevations, it becomes a diminutive shrub; and in low "situations, where it is a lofty timber tree, the wood on "poor sandy soil is light, almost without resin, and of little "duration; while on soils of a colder and more substantial "nature it is red, heavy, and of great durability. It "appears, also, that the same soil will produce both white-"wood and red-wooded trees; but, generally speaking, the "former is found on the plains and the latter on the hills. ". . . . The quality of the timber . . . . is dependent on "the soil and climate. That grown in the south is thick-"barked, carrying a great amount of sapwood, whilst that "grown in the north is the reverse. Again, that grown in "the south is hard and resinous, with live or red knots "when converted, whilst that grown in the north is soft and "non-resinous, with a large number of black or dead knots. ". . . . Such was the ignorance, in even high quarters, "on this subject one hundred years ago, that the French "Minister of Marine, in 1785, seeing the fine fir masts "imported from Riga, sent out a M. BARBÉ, a master "mast-maker of Brest, to obtain seeds of the trees, which, "upon being planted, produced, to the surprise of the French "authorities, the common Scotch fir.

"In addition to this geographical difference in the "quality of the wood there is a local one, arising out of the

* *Op. cit.*, pp. 155 and 159-163.

" nature of the soil. . . . Wood grown upon dry, elevated " land, will be harder and more resinous than that grown on " low, wet, or swampy soil. . . ."

In trade it is recognised that red deal is superior to yellow, the best timber having its annual rings not more than $\frac{1}{10}$ of an inch across, and the autumn wood of a bright red, whilst inferior varieties are honey-yellow and over-resinous. Though only known in commerce by the names of their ports of shipment, there are undoubtedly distinct and important botanical varieties of this species. Without going as far as the Baron DE MOROGUES of Orleans, who recognised no less than fourteen distinct varieties among the pines of Savoy alone,* after the long and careful study of thirty different forms by the late M. DE VILMORIN, at Les Barres, between 1821 and 1862, we can hardly deny the importance of the five main types which he made out.† These are grouped in two divisions: (1) with ascending branches, var. *rubra;* (2) with horizontal branches, var. *vulgaris.* Division 1 includes three sections: (A) with close, pyramidal branching, as in some of the Riga pines; (B) with scattered branches and a symmetrical top, as in other Riga pines; and (C), with scattered branches, often very large and unsymmetrically developed, as in the Hagenau or German pine. Division 2 includes two sections: (D) with the branches in layers, tapering irregularly, as in the Geneva pine; and (E), thick and compact, as in the Briançon pine, that of the Higher Alps. Of these sections M. VILMORIN prefers the first (A), to which belong the pines of Smolensk, Vitebsk, Tchernigov, and Volhynia. Our Scots pine, which is inferior, is intermediate between sections B and C.

* "Forestry and Forest Products," Edinburgh, 1885, p. 200.

† "Pine Plantations on the Sand-wastes of France." By Dr. J. CROUMBIE BROWN, pp. 103 *et seq.*

In English oak and elm, and in the false acacia or locust (*Robinia*), the question of slight botanical variation is also one of importance. It is commonly said that, of our two commoner varieties of oak, *Quercus pedunculata* yields the better timber. This opinion is probably based upon the fact that this variety generally presents a longer unbranched bole, thus yielding more straight timber of fair dimensions. Laslett, for example, whilst stating that the timber of *Q. sessiliflora*, sometimes called the Bay oak, is a little less dense and compact than that of *Q. pedunculata*, owns that, apart from dimensions, the two timbers so much resemble each other that "few surveyors are able to speak "positively as to the identity of either." *

Opinions would seem to differ very remarkably as to the relative value of the timber of the so-called English and Scotch elms (*Ulmus campestris* and *U. montana*). This apparent uncertainty is, I believe, owing to a want of discrimination on the part both of botanists and of timber growers and valuers between the various forms lumped under the name *U. campestris*. Of these, the Dutch elm (*U. major*) and the Cork elm (the true *U. suberosa*) undoubtedly yield inferior timber; but the common elms of the south of England, with rough and often small leaves (*U. campestris*), which has, unfortunately been lumped under the name *U. suberosa* by some botanists, yields a timber that, though darker in colour and more twisted in grain, is as strong, tough, and durable as that of the true Wych elm (*U. montana*). Here, again, some confusion that may be of economic importance arises from the inclusion of the smooth-leaved elm (*U. glabra*) with the true *U. montana*. The practical result of this uncertainty seems to be that, while the value of "Scotch elm" or *U. montana* is undisputed, when English elm is condemned as worthless, or, at least, as far

* "Timber and Timber-trees," p. 44.

inferior to Scotch, it is generally the Cork elm that is in contemplation, and not the true *U. campestris*.

Of *Robinia Pseud-Acacia*, the locust or false acacia, there are three varieties commonly recognised in the United States, and in the Western States, it is stated, a fourth. These, though no doubt mainly dependent upon soil or situations, are very distinct in the colour and durability of their timber. The most durable, most beautiful, and most valuable is the red; the commonest the green, a greenish-yellow wood (apparently the only kind imported), is next in value; the white is the least valuable of these three; and the black variety is only recorded in the Western States.

For ready identification and comparison of timbers, considering the great variety that are in use, it is obviously necessary to have some system of classification. Botanists group trees, as they do other flowering plants, in accordance with the characters of their flowers, fruit, and leaves, a method which is undoubtedly the best for the purpose of indicating the genetic affinities of the various species. For the practical study of timber, however, we require a scheme of grouping based upon the wood itself; and, as we may often have to deal with square timber, masts, or even planks, it is well to be as independent as we can of characters derived from the bark or even from the pith.

Speaking of this subject in his work on "Timber and Some of its Diseases," Professor Marshall Ward, F.R.S., of Cooper's Hill, writes:—"It may be doubted "whether all the difficulties are likely to be surmounted ". . . . In any case, while allowing that it is as yet "impossible so to arrange a collection of pieces of timber "that all the kinds can be recognised at a glance, it must "be admitted that the attempt to do so at least aids one in "determining many kinds." Then, excluding from consideration, as not being timber, the wood of ferns, palms,

bamboos, and cycads, he reviews the various characters available for classificatory purposes. Among these are the pith, the contrast between heart-wood and sap-wood, "pith-flecks" or "medullary spots," resin-canals, medullary rays, annual rings, vessels, hardness, weight, grain, and colour, as to some of which it is necessary to say something here.

Pith-flecks are dark patches occurring numerously in certain woods, such as hazel, alder, and birch. They are supposed by Kienitz to originate in passages bored by the larvæ of a species of *Tipula* which live in the cambium, these passages becoming filled up immediately with cellular tissue.

Resin-canals, distinguishable from vessels by their irregular outline produced by the ring of resin-epithelial cells surrounding them, are very characteristic of the majority of coniferous woods, though they do not occur in yew, juniper, cypress or silver fir (*Abies*), and do occur in the *Anacardiaceæ*, a family of dicotyledonous angiosperms that is mainly tropical.

The medullary rays or silver grain afford a very useful character. They vary much in number and in width. In gymnosperms, willows, horse-chestnut, and ebony, they are either only one cell in width or are at least so inconspicuous as to require a lens for their observation, whilst in oak they are conspicuous to the naked eye. They vary in width from ·005 millimetre to a millimetre; and in number from twenty or less in a breadth of 5 millimetres, as in *Laburnum* and *Robinia*, to 64 in the same space in oak and 140 in *Rhododendron maximum*.

As to the annual rings with which we are familiar in almost all European timbers, it must be remembered that their distinctness is mainly the result of the winter pause in vegetation in the trees, especially the deciduous trees of temperate latitudes, so that in many evergreens,

especially in those of the tropics, they are not distinguishable. Though produced by the same cause, viz., the increasing mechanical resistance of the cork to growth towards the end of summer, annual rings present two distinct types of structure. In oak, ash, plum, or teak, for instance, the spring-wood contains numerous large vessels, whilst the autumn-wood has but few; whilst in birch, maple, or horse-chestnut, the vessels are small and evenly dispersed throughout the rings, but the wood-fibres have thicker walls and smaller lumina (or central spaces as seen in cross-section) in the autumn than in the spring-wood.

Vessels are absent from coniferous woods, but occur in all broad-leaved woods, and, apart from their size and distribution through the ring, afford an interesting series of characters in their grouping. They are usually apart from one another in boxwood and in quince, in small groups in holly and hazel, in long sinuous radial rows in hornbeam, in concentric bands in elm, and in wavy flamboyant groups in oak, chestnut, and others.

The wide range of hardness in timbers is a matter of common knowledge, though but little has been done to tabulate it. It is, however, tolerably closely connected with the density of the wood, a character to which more attention has been paid. Though many tables have been published giving the specific gravity of various woods to three and even four places of decimals, perhaps a more useful form of statement is the weight of a standard cube, either that of a cubic foot in pounds or that of a cubic decimetre in grams. Thus, while water weighs 62·321 lbs. per cubic foot, timbers range from 13 to 85 lbs. We may, perhaps, arrange them into five grades, viz.:—(1) *Very Light*, not exceeding 30 lbs. per cubic foot, or with a specific gravity below ·5, as in poplar, willow, and spruce; (2) *Light*, not exceeding 40 lbs., *i.e.*, S.G. less than ·66, as in larch, elm, plane, and

most chestnut and sycamore; (3) *Of medium weight,* between 40 and 50 lbs., or S.G. not exceeding ·83, as in birch, hornbeam, acacia, alder, and some teak, pitch-pine, ash, beech, and oak; (4) *Heavy,* between 50 and 60 lbs., or S.G. below 1·0, as in Spanish mahogany, and some mora and greenheart; and (5) *Very Heavy,* above 60 lbs., or with specific gravity about 1·0 or upwards, as in American oak and jarrah.

The table of classification which Professor Ward suggests, based on these characters, includes one large division almost exclusively tropical, and practically only divides European broad-leaved timbers into six groups. I shall return to this scheme presently; but must first deal with some previous proposals.

In "Science Gossip" for February 1883 (pp. 39-41) is given a classification of cross-sections of wood, by C. J. Mueller, which groups some forty kinds of wood (including that of many small shrubs, such as *Clematis, Berberis, Tamarix,* the ivy, privet, rose, bramble, &c.), primarily by the form of the pith-mass, which is either (i) circular or nearly so, (ii) triangular, (iii) ovoid, (iv) pentangular or hexagonal, or (v) irregular. The first of these classes is sub-divided according as the edge of the woody tissue next the pith is crenate or even, *i.e.*, apparently, according as the primary xylem forms prominent projections into the circular pith or not. Such a system, though useful for microscopic cross-sections of entire twigs, is obviously of but limited utility to us, though other characters of importance, such as the proportion of the area of the pith to that of the wood, the character of the vessels, of the medullary rays, and of the bark, are given by the author without being employed as a basis of classification.

A very useful classification is that modification, by Rankine and Hurst, of the scheme originally employed by

Tredgold.* This affords the essential primary division of coniferous or resinous woods, belonging to the *Coniferæ*, from hard or leaf wood; but it does not attempt a sub-division of the resinous class, and its main defect is that it does not go far enough in the discrimination of related woods. It divides the hard wood class into two divisions according to whether distinct large medullary rays are, or are not, present, sub-dividing each of these divisions according to the distinctness or indistinctness of the annual rings as produced by the more porous character of the spring wood. We have thus four sub-divisions: (1) with distinct large medullary rays and distinct annual rings, as in the oak; (2) with distinct large medullary rays, but indistinct annual rings, as in beech, alder, plane, and sycamore; (3) with no distinct large medullary rays, but with distinct rings, as in chestnut, ash, and elm; and (4) with neither distinct rays nor rings, as in mahogany, walnut, poplar, teak, and greenheart.

In the excellent little work by Dr. Robert Hartig, of Munich, from the third edition of which a translation was published by Dr. William Somerville in 1890, under the title, "Timbers and how to know them," some 70 timbers, grown on the continent of Europe, are grouped on a somewhat different, more detailed, and more practically-useful system. Trees are in this scheme primarily divided into needle-leaved and broad-leaved. The former are subdivided into those

(*a*) without resin-ducts—either

i, with colourless duramen, as in *Abies*, or

ii, with coloured duramen, as in yew, juniper, and cypress;

* Rankine, "Civil Engineering," p. 440. Tredgold's "Carpentry," ed. Tarn (1886), p. 260. "Notes on Building Construction," part iii., p. 362.

(*b*) with resin-ducts—either

iii, with colourless duramen, as in *Picea*, or

iv, with colourless duramen, either with

1, autumn wood broad and sharply defined, as in larch, Douglas fir, Scots fir, and many other pines, or

2, autumn wood narrow and not sharply defined, as in *Pinus Cembra* and *P. Strobus*.

Broad-leaved trees fall into three main divisions, with either

(*a*) the vessels in the spring wood very large—and

i, those in the autumn wood regularly distributed, as in ash and acacia (*Robinia*);

ii, those in the autumn wood in peripheral or concentric lines, as in elm; or

iii, in radial lines, with either

1, most medullary rays very fine, others very broad, as in oak;

2, all medullary rays scarcely visible, as in chestnut (*Castanea*); or

3, all of them very broad, as in the vine, rose, barberry, &c.; or

(*b*) the vessels in the spring wood not large but numerous, with either—

i, distinct medullary rays, as in *Prunus* and elder; or

ii, indistinct, as in *Rhamnus, Rhus,* and lilac; or

(*c*) the vessels in the spring wood neither large nor numerous, with either—

i, all the vessels prominent, as in walnut; or

ii, the vessels scarcely visible, when the medullary rays may either be—

1, numerous and broad, as in plane (*Platanus*);

2, of various breadth, as in beech, hornbeam, and hazel;

3, broad but few, with others very fine, as in *Alnus;*

4, all fine, but distinct, as in *Acer*, *Tilia*, and holly; or

5, invisible, with

α, hard wood, as in *Pyrus*, *Cratægus*, box, and birch; or

β, soft wood, as in horse-chestnut, willows, and poplars.

The few figures illustrating this little work show the appearance of the woods in question under an ordinary lens, and might be supplemented by others with advantage, though no drawings can take the place of the study of the actual woods, or of such sections as those of Nördlinger, or still better of Burkart for European and of Romeyn Hough for American timber. Professor Ward's classification, to which I have already alluded, is practically on the same lines as this; but he divides all European broad-leaved trees primarily according to whether the rings owe their distinctness to larger or more numerous vessels in the spring wood or to the more compact character of the autumn woody fibre.

As far back as 1872 Herr H. Nördlinger, in his "Les bois employés dans l'industrie," accompanies his series of small sections for microscopic examination with a table of classification including about 100 woods, most of which have their distinctive characteristics tabulated. This classification, and the similar one in the same author's "Holzquerschnitte" (1862-82), which deals with 1,000 woods, no doubt err in over precision as to the grouping of the vessels in fixed numbers; but as the tables have not, so far as I know, appeared in English, I think it as well to give a translation of the former one here.* Based upon these works by various authors

* See Appendix, p. 396.

I have in preparation a table, as simple as I can make it, including only those woods used in Europe for purposes of construction; but this I am unable to complete before receiving from Mr. Romeyn Hough thin sections of some of those woods which are of American origin, taken from well-authenticated trees.

The microscopic examination of transverse sections on which these tables are based, though the most important means of discriminating woods, is not, as has been already indicated, by any means the only means. The chief other means may be spoken of collectively as weight and resistance. As I have already said, the former character may be perhaps more instructively expressed by giving actual weights of a standard block than by specific gravities. Many measurements of both weight and resistance have been published, and, as might be expected from variations in the quality of timber and of its dryness, the results sometimes appear hopelessly discordant. This discordance is, however, needlessly added to by the adoption of different methods of testing and different standards of comparison by almost every experimenter.

It is when speaking of these experimental tests of resistance that Tredgold makes the remarks, which might well, I think, be considerably expanded in their application, to the effect that actual testing may take the place of a lifetime of practical experience in carpentry. The rule-of-thumb guess of the experienced carpenter as to the suitability of any particular piece of wood to resist strain (particularly if it be wood of a species previously unknown to him) will be, I believe, largely based on the general rule that in wood weight, hardness, and power of resistance to most strains, vary together. To this rule there are, however, many important exceptions, where testing would prove what no rule of thumb is likely to perceive. In the later editions

of Tredgold, such as those of Hurst and Tarn, numerous valuable tables of results are given, which are perhaps almost bewildering in their fulness of detail. Such tables are, however, conveniently summarised for most practical purposes, in Messrs. Rivingtons' "Notes on Building Construction," into one table of about thirty woods described under ten columns, viz., weight of a cubic foot when dry, in pounds; tenacity per square inch, lengthways of the grain, in tons; modulus of rupture and modulus of elasticity, in pounds; resistance to crushing, with the grain, in tons; resistance to shearing, with and across the grain, in pounds per square inch; force per square inch requisite to crush $\frac{1}{20}$ inch deep across the grain, in tons; and stiffness and strength as compared to English oak taken as 100. For these woods this would be all that is requisite, were the figures more reliable than they can be in the absence of more agreement as to standards of comparison.

In testing a large series of the timbers at the Indian and Colonial Exhibition, Mr. Allen Ransome made use of planks planed to 18 in. long, $4\frac{3}{8}$ in. broad, and $1\frac{1}{2}$ in. thick, weighed and then dried by the cool air process for 144 hours, re-weighed and re-measured in width and thickness.* This method seems satisfactory; but we require a table of European woods under the same test, and it is only fair to colonial woods to bear in mind that specimens for exhibitions are very often felled at the wrong time of year, and hastily and imperfectly seasoned.

One of the most extensive series of investigations of this kind was that of Mr. Stephen P. Sharples, of Cambridge, Mass., referring to between 300 and 400 woods of the United States and Canada, incorporated in vol. ix. of the Ninth Census of the United States, in 1880,

* Colonial and Indian Exhibition Reports, edited by H. T. Wood, London, 1887, 8vo.

where, perhaps, few people in England would think of looking for information upon the quality of timber. Mr. Sharples gives specific gravity, weight of a cubic foot in pounds, co-efficient of elasticity, modulus of rupture, resistance to longitudinal pressure, and to indentation, percentage of ash and relative fuel value. The co-efficient of elasticity, I may explain, is the weight in kilograms, sufficient to elongate a stick one centimetre square to double its original length. Mr. Sharples's results and methods are briefly stated by Mr. Romeyn Hough in the letterpress accompanying his sections of American woods, and in Prof. C. S. Sargent's magnificent "Silva of North America."

Contenting myself with again urging the desirability of uniform methods of testing and recording results, I leave this portion of my subject which belongs rather to the province of the engineer to say a few words in conclusion as to the exhibition of timber, and illustrative specimens for educational purposes. Assuming, what is, I suppose, indisputable, that it is desirable that students, whether intending to be land-agents or surveyors, should learn to recognise familiarly the woods commonly grown and employed, and to judge of their condition as to soundness and durability, I can only say that, at present, though we examine in this subject, there are but scanty facilities for the student to acquire such knowledge. The small timber museum at Kew is mainly of colonial woods, and can hardly be called systematic; other specimens are lost sight of in the great general collection of economic products; nor do the collections of the Natural History Museum in Cromwell Road adequately fulfil this purpose.

The requisite specimens need not occupy much space, as the number of species and varieties important to surveyors is not large. A log of each tree, with the bark on—at least partly—should be prepared, cut across half its sectional

area transversely, through half its length radially, then through most of the other half of its area obliquely and down one side tangentially. Half of each of the four exposed surfaces should be polished (without varnish), and the other half merely planed. The names of the tree should, to avoid mistakes, be incised in the wood. The imitation books, named on the back and containing dried leaves, twigs, buds, flowers, and fruits, are most portable specimens illustrative of tree life, and the framing of photographs of specimen trees, with and without their foliage, in their own bark, or the painting of the foliage, flowers, and fruits of each species on a polished panel of its own wood, are also useful supplementary aids to the student. By a simple contrivance a microscope with locked adjustments may be adapted so as to exhibit a large number of sections; and Mr. Hough can, I believe, prepare these as disks, instead of the usual glass slips, for this purpose. I have, I think, hit upon a satisfactory contrivance for the safe public exhibition of larger sections such as Burkart's or Hough's, by transmitted light, in one of the large box-like apparatuses, long used for series of stereoscopic slides, furnished with an incandescent electric light, which can be switched on at will. Were such a timber museum established for the benefit of the profession, I do not doubt but that very many valuable specimens, illustrative not only of our timbers as normally developed, but also showing their pathology and the effects of bad management, would be received from its members.

APPENDIX.

CLASSIFICATION OF WOODS AFTER H. NÖRDLINGER.

From "Les Bois Employés dans l'Industrie," 1872.

DIVISION A. NEEDLE-LEAVED TREES.

(A) Without Conspicuous Resin-Ducts.

(I.) Rings well rounded. Wood white and soft. Silver Fir. [(1) *Abies pectinata.*]

(II.) Rings sinuous and wavy. Duramen yellowish red. Junipers. [(2) *Juniperus communis* and (3) *J. Oxycedrus.*]

(III.) Rings excentric, often sinuous. Duramen brownish red. Yew. [(4) *Taxus-baccata.*]

(IV.) Rings sinuous. Scattered red cavities. Duramen brownish red. [(5) *Callitris quadrivalvis.*]

(B) With Conspicuous Resin-Ducts.

(I.) Ducts narrow and few.

(i.) Rings imperfectly rounded. Wood white and soft. Spruce. [(6) *Picea excelsa.*]

(ii.) Rings well rounded. Duramen yellowish brown, harder. Cedar. [(7) *Cedrus Libani.*]

(II.) Ducts prominent.

(i.) Solitary; or in twos, threes, or even fours or fives.

a. Rings narrow. Wood more firm. [(8) *Pinus Mughus.*]

b. Rings wider. Wood less firm. Aleppo Pine. [(9) *Pinus halepensis.*]

(ii.) Solitary, or here and there in pairs.

a. Wood tolerably hard and firm.

* Duramen purplish red. Larch. [(10) *Larix europœa.*]

** Duramen reddish yellow. [(11) *Pinus sylvestris*, (12) *P. Laricio*, (13) *P. Pinaster.*]

b. Wood soft and light.

* Rings rather narrow. [(14) *Pinus cembra.*]

** Rings broad. Weymouth pine. [(15) *Pinus strobus.*]

DIVISION B. BROAD-LEAVED TREES.

(A) Rings Scarcely Distinguishable.

Texture, close and compact. Vessels, scattered uniformly. Wood yellow, mottled with brown. Olive. [(16) *Olea europæa.*]

(B) Rings Distinct.

(I.) Vessels not much more numerous towards the inner margin.

(i.) With concentric rings of more spongy texture.

a. Wood yellow, soft. Fig. [(17) *Ficus Carica.*]

b. Duramen brown and hard. Walnut. [(18) *Juglans regia.*]

(ii.) Texture more spongy between the scattered vessels. [*Acer.*]

a. Rings perfectly round.

* Medullary rays winding. [(19) *Acer opulifolium.*]

** Medullary rays straight. Sycamore. [(20) *Acer Pseudo-platanus.*]

b. Rings more or less sinuous.

* Wood reddish, very hard. Maple. [(21) *Acer campestre.*]

** Wood light coloured, hard. [(22) *Acer platanoides*]

(iii.) Texture more spongy, in radial lines, and round the flame-like groups of vessels.

a. Duramen reddish brown, very hard. [(23) *Phillyrea stricta.*]

b. Wood white, very hard. [(24) *Rhamnus alaternus.*]

(iv.) Texture very homogeneous. Wood very fine, very heavy, yellow. Box. [(25) *Buxus sempervirens.*]

(v.) Free from spongy tissue.

a. Distribution of the vessels uniform and dendritic.

* Vessels solitary, and in groups of 2 to 5. Rings angular. Black Poplar. [(26) *Populus nigra.*]

** Vessels solitary and in groups of 2 to 7. Rings circular.

† Without pith-flecks. White Poplar. [(27) *P. alba.*]

†† With white pith-flecks. Aspen Poplar. [(28) *P. tremula.*]

*** Vessels solitary, and in groups of 2 to 8, with brown pith-flecks. Birch. [(29) *Betula alba*]

b. Distribution of the vessels uniform, or sometimes wormlike.

* Vessels 1—2 Duramen reddish brown, very hard. Cornelian. [(30) *Cornus mas.*]

** Vessels 1—3. Wood reddish, hard, with pith-flecks. Hawthorn. [(31) *Cratægus Oxyacantha.*]

Vessels 1—3. Wood yellowish, moderately hard. Spindle Tree. [(32) *Euonymus europæus.*]

Vessels 1—3. Wood greenish, very hard. [(33) *Staphylea pinnata.*]

*** Vessels 1—4. With a few flecks in the centre, very hard. White Beam. [(34) *Pyrus Aria.*]

Vessels 1—4. With numerous flecks, brownish yellow. Wild Service Tree. [(35) *P. torminalis.*]

Vessels 1—4. Without flecks. Duramen brownish red. Sapwood, light coloured. Apple. [(36) *P. Malus.*]

Vessels 1—4. Without flecks. Duramen and sapwood brownish red. Pear. [(37) *P. communis.*]

Vessels 1—4. Without flecks. Duramen flesh colour. Dogwood. [(38) *Cornus sanguinea.*]

Vessels 1—4. Without flecks. Vessels in pairs, separated radially. Guelder Roses. [(39) *Viburnum Lantana*] *and* [(40) *V. Opulus.*]

***** Vessels 1—5. †Wood hard, reddish.

Pith-flecks numerous, hard. Mountain Ash. [(41) *Pyrus Aucuparia.*]

Pith-flecks few, very hard. Service Tree. [(42) *Sorbus domestica.*]

Rings bulging between the rays. Beech. [(43) *Fagus sylvatica.*]

††Wood soft and white.

‡Groups of vessels often in lines. Lime. [(44) *Tilia.*]

‡‡ Groups of vessels somewhat wormlike. Willows. [(45) *Salix alba*, (46) *S. fragilis*, (47) *S. daphnoides.*]

****** Vessels 1—6. Pith-flecks numerous. Medullary rays wide. Alder. [(48) *Alnus glutinosa.*]

Pith-flecks few. Few wide rays. [(49) *Alnus incana*]

Without pith-flecks. Duramen brown. Plane. [(50 *Platanus.*)

****** Vessels 1—7. Rings rounded. Wood white. Horse Chestnut. [(51) *Æsculus Hippocastanum.*]

Rings angular. Wood red. Goat Willow. [(52) *Salix Caprea.*]

******* Vessels 1—10. Rings bulging on the outer side. Wood red. [(53) *Alnus viridis.*]

(II.) Vessels much more numerous towards the inner margin.

(i.) Vessels in the spring wood of the ordinary size.

a. Vessels in lines or queues.

* Vessels 1—16. Medullary rays wide. Rings wavy. Wood white. Hard. Hornbeam. [(54) *Carpinus Betulus.*]

** Vessels 5—12. Medullary wide. Rings rounded. Wood reddish. Hazel. [(55) *Corylus Avellana.*]

Vessels extremely fine. Wood greenish. Hard. Holly. [(56) *Ilex Aquifolium.*]

b. Vessels uniformly arranged, slightly dendritic or worm-like.

* Vessels solitary. Wood very hard, reddish white. Quince. [(57) *Cydonia vulgaris.*] and [(58) *Amelanchier vulgaris.*]

** Vessels 1—3. Wood reddish white. Medlar. [(59) *Mespilus germanica.*]

*** Vessels 1—4. Duramen purplish brown. Plum. [(60) *Prunus domestica.*]

**** Vessels 1—5. † Wood hard, brown. Blackthorn. [(61) *Prunus spinosa.*]

†† Wood soft, white. Rings angular. Canadian Poplar. [(62) *Populus monilifera.*]

***** Vessels 1—8. Wood yellowish brown, moderately hard. Cherry and Bird Cherry. [(63) *Prunus Avium* and (64) *P. Padus.*]

Vessels 1—8. Wood yellowish brown, hard. [(65) *Prunus Mahaleb.*]

Vessels 1—8. Wood yellowish, rather soft. Elder. [(66) *Sambucus nigra.*]

****** Vessels 1—13. Wood yellowish brown, hard. Dwarf Cherry. [(67) *Prunus Cerasus.*]

c. Arrangement of vessels dentritic or in flames.

* Vessels 5—20. Rings rounded. Duramen dark brown. Broom. [(68) *Cytisus scoparius.*)

** Vessels about 50, in flames. Duramen red. Sapwood yellow. Buckthorn. [(69) *Rhamnus catharticus.*]

(ii.) Vessels in the spring wood larger than the others.

a. Wood riddled with huge vessels. Medullary rays wide. Wood yellow. [(70) *Clematis Vitalba.*)

b. Vessels in queues or branched queues.

* Wood sulphur yellow, hard. Barberry. [(71) *Berberis vulgaris.*]

* Duramen brown. Sapwood narrow. Without wide rays. Chestnut. [(72) *Castanea vesca.*]

** Duramen brown. Sapwood narrow. Medullary rays very wide and numerous, or wide but less numerous. Oak. [(73) *Quercus.*]

c. Distribution of vessels uniform.

* Vessels 1—3. Duramen brownish yellow. Sapwood white, very hard. Honeysuckle. [(74) *Lonicera Xylosteum.*]

** Vessels 1—4. Duramen violet. Sapwood white, very hard. Privet. [(75) *Ligustrum vulgare.*]

*** Vessels 1—6. Wood dark red, hard. [(76) *Arbutus Unedo.*]

**** 1—12. Duramen brown, very hard. Almond. [(77) *Amygdalus communis.*]

d. Vessels dendritic or in circles, often scattered in the earlier part of the rings.

* Arrangement strikingly dendritic.

† Vessels 1—4. Wood yellowish white, very hard. Furze. [(78) *Ulex europæus.*]

†† Vessels 1½—6. Wood yellowish white, soft. Ivy. [(79) *Hedera Helix.* (80) *Cytisus Laburnum.*]

††† Vessels 1 — several dozen. Duramen dark brownish yellow. Common Elm. [(81) *Ulmus campestris.*]

Vessels 1—several dozen. Heart wood brown or red. [(82) *U. effusa.*]

** Arrangement slightly dendritic or concentric.

† Vessels 1 — 4. Duramen brown. Sapwood white. Ash. [(83) *Fraxinus excelsior.*]

Vessels 1—4. Duramen yellowish brown. Sea Buckthorn. [(84) *Hippophäe rhamnoides.*]

†† Vessels 1—5. Very large. Duramen brownish orange. [(85) *Ailanthus glandulosa.*]

Vessels 1—5. Duramen greenish white or yellow. Tamarisk. [(86) *Tamarix gallica.*]

††† Vessels 1—7. Duramen greenish white. Sapwood white, narrow. Wig Tree. [(87) *Rhus Cotinus.*]

Vessels 1—7. Duramen reddish yellow. Sapwood yellow. Berry-bearing Alder. [(88) *Rhamnus Frangula.*]

†††† Vessels 1—8. Duramen brownish yellow. Sapwood white. Judas Tree. [(89) *Cercis. Siliquastrum.*

Vessels 1—8. Duramen brownish yellow. Sapwood yellow. Mulberry. [(90) *Morus alba.*]

Vessels 1—8. Duramen greyish brown. Sapwood greenish yellow. [(91) *Celtis australis.*]

††††† Vessels 1—10. Duramen yellowish brown. Sapwood yellow. Locust. [(92) *Robinia Pseudacacia.*]

The author having, by means of the oxy-hydrogen light, exhibited on the screen a number of sections of timbers, and pointed out their characteristic markings and structure,

Mr. D. Watney (Fellow) said it was with great pleasure that he rose to propose a vote of thanks to Professor Boulger for his admirable Paper. It was, he feared, of almost too scientific a character for a plain surveyor of the present day to grasp, though he could foresee the time when the Members of the Institution would have become so educated that they might look upon this Paper as quite an elementary one, but even then he felt sure Professor Boulger would be able to go deeper still into the subject. He was not prepared to offer any criticism on the Paper, but he observed one point in it which shewed him that for many years he (the speaker) must have been under a wrong impression.

The author said that the *Ulmus montana*—the wych elm—was quite as good if not better than the *Ulmus campestris;* but he had always believed that the wych elm was not so valuable for commercial purposes as the ordinary English elm. But Professor Boulger said that some confusion arose from the inclusion of the smooth-leaved elm *Ulmus glabra* (which he had always taken to be a very inferior wood) with the wych elm.

The Paper was one which required careful study, and which would repay such study by affording a vast amount of information; but its very comprehensiveness rendered it almost impossible to criticise its merits, or to offer any remarks on the very wide subject with which it so exhaustively dealt.

Mr. P. D. Tuckett (Fellow) said he had great pleasure in seconding the vote of thanks for this exceedingly learned

and valuable Paper, which, he must confess, he felt quite incompetent, at the present moment, to discuss in detail.

He had been struck by the very same point which had drawn Mr. WATNEY's attention. The Paper described the wych elm as the most valuable one; but there certainly was a species popularly called by that name, which was usually regarded as worth rather less than another sort, commonly spoken of as English elm.

One suggestion contained in the Paper was, he thought, valuable, viz., that the Institution, which had now advanced to such great prosperity, might usefully establish a small but complete museum of English timber.

Professor MARSHALL WARD (Visitor) said he hardly knew which to admire most—the courage of the author in attacking so difficult a subject, or the way in which he had dealt with it and interested all present.

No doubt the difficulty of an exhaustive study of timber must impress itself on everyone who had listened to the Paper; but at the same time he could not help thinking that, in spite of all difficulties, the subject possessed so much interest that it must commend itself to all as a study worth pursuing even if only in an elementary way. He was inclined to think, however, that it was worth taking up very seriously by everyone connected, as many of those present were, with the technological side of the study of timber. It seemed to him (and it was a point that forced itself more and more on one's attention as years went on) that during the last decade professional men in England had justified their character for being practical, and were now really recognising the fact that the true way to practice was to know, and he could not help thinking that in the profession represented by The Surveyors' Institution enquiry into the characteristics and qualities of the various descriptions of timber was bound

to recommend itself as a subject worthy of scientific study.

It was quite impossible to deal with all the points put forward in the Paper, but on one or two he would like to make a few remarks. He thought that a little too much had been made of the difficulties to be encountered by the student of timber. He was sure that had the author had more time at his command he would have shewn that the difficulties were not nearly so insurmountable as they appeared to be. By way of illustration he might mention that he (Professor Ward) had lately made some very simple sections for students, and he felt no hesitation in stating that, beautiful as were the sections that had been thrown upon the screen on the present occasion, those which he had obtained in a few moments were equally beautiful. He would state in a few words, if he might, the method that should be adopted. It was simply to take pieces of common wood, say, oak, beech, or lime, and with a well-sharpened steel plane to remove a single shaving; to put that shaving at once into some coloured dye and then to mount it. The result was found to be perfect. One could by that simple means obtain most satisfactory results, and could bring out the structure of the timber, and produce microscopic sections which might be studied at leisure, and which made excellent lantern-slides.

He was not content to take one section, but he found it of great importance to take three—the longitudinal section, the tangential section (also longitudinal, but at right angles with the other), and the transverse section. It happened over and over again that, when it was impossible to determine the character of a specimen by the transverse section, the other sections showed additional characters very clearly. A very good illustration of this was in the case of the alder and the birch, which really presented many resemblances, but

the difference could be distinguished at once if one cut sections longitudinally and at right angles to the medullary rays.

If one took sections of six of the common timbers—for instance, oak, beech, the common larch, maple, willow, and, say, the plum (he had chosen them somewhat haphazard), and treated them in the way he had advised, the result would be sure to repay the trouble. He ventured to think that on that basis of six well-studied timbers it was possible in a very short time indeed for the amateur student to acquire such an acquaintance with the characteristics of timber as would serve as a basis for the recognition of at least twenty others. While he agreed with the author that the subject has its difficulties, it was, perhaps, allowable for him (Professor Ward) to deal with the question from the other point of view, and to say that they were not so great as might be supposed. The subject covered so much ground that it was impossible for him to traverse it. One fault of the Paper was in its being too condensed; but the conditions under which it was read and the limited time at the reader's disposal no doubt rendered such a condensation unavoidable. It was also a pity that European timbers in particular had not been chosen for illustration rather than American ones.

Mr. A. Payne (Fellow) said that, complete as the Paper was, he ventured, although with some diffidence, to ask for still further information. Many interesting sections had been shewn on the screen, but he supposed that every one of them was taken from a sample of healthy wood. Now, if at some future time the author would shew, by fresh specimens, what would be the appearance of the same timber in an unhealthy condition, and by what indications disease could be detected, the information would be of immense service to surveyors and other practical men who had to judge of the fitness and value of timber.

Professor Boulger, in reply, desired to thank the Meeting for the kind reception they had given his Paper.

It was, as Professor Ward had said, necessarily a somewhat condensed treatment of a very wide subject, and, for the sake of accuracy, more than anything else, perhaps, he had used the Latin names of trees more often than he should otherwise have done.

He felt very strongly on the subject of the great practical importance in the valuation of timber, of the difference of mere varieties from the botanist's point of view; and he thought no group of trees illustrated this more than the British elms. Botanists had much to answer for in the confusion which they had introduced. He was under the impression that it was an admitted fact that the wych elm was more valuable than the *Ulmus campestris*, *i.e.*, the Scotch elm was more valuable than the common elm. He had generally seen it more highly priced; but when the common elm was spoken of in a depreciatory manner, he found that, in the neighbourhood of London especially, the large-leaved somewhat corky Dutch elm was really meant.

He could endorse what Professor Ward said about the value of sections, in three directions.

He had lately had about forty specimens sent him from the Malay Archipelago, with Malay names. Some of them he was unable to identify, but the interesting feature of them was the high specific gravity of some and the low specific gravity of others. The pink ivory of Natal was another instance of an unidentified wood. It came from the borders of British Kaffraria, and was probably some form of acacia—a leguminous wood—but nothing certain was known about it.

He had before him two sections, sent up by Professor Curtis, to which he would call attention.

The smaller one was the silver fir, and the larger the

Douglas fir. They were of the same age—about 22 years—as could be seen by the number of rings, the enormous width of the rings in the Douglas fir being particularly remarkable. They had grown side by side in a plantation in Ireland, but the smaller one was 10¼ inches in diameter, while the larger had attained a diameter of 19½ inches. It was said that the deduction to be drawn was that the Douglas fir should certainly be grown, where possible, for timber purposes; but he questioned whether such a rapidly-grown Douglas fir as that would equal the Scotch slow-grown specimens, or the still slower-grown British Columbian specimens. Where there was a sufficiently moist climate there was hardly any limit to the rate of growth of the Douglas fir, but he should say that, probably, the durability and strength diminished in proportion.

The President said it only devolved upon him to ask the Members present to concur in the vote of thanks to their Associate, Professor Boulger, for his most able and learned Paper, which had not only proved to be interesting and full of facts new to many present, but had shewn that land surveyors and timber valuers had yet a great deal to learn before they arrived at anything like a complete knowledge of the subject.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

THE ANNUAL GENERAL MEETING,

Monday, May 30th, 1892.

ROBERT COLLIER DRIVER (PRESIDENT) in the Chair.

The Report of the Scrutineers, appointed at the Ordinary General Meeting of Monday, May 9th, 1892, under the provisions of Article XLII. of the Amended By-Laws, was read to the Meeting.

The Report declared that the following had been elected a

COUNCIL FOR THE ENSUING YEAR.

President.

CHARLES JOHN SHOPPEE

Vice-Presidents.

FRANCIS VIGERS
THOMAS CHATFEILD CLARKE
DANIEL WATNEY
ALEXANDER MILNE DUNLOP

Members of Council.

CHRISTOPHER OAKLEY
ROBERT VIGERS
THOMAS MILLER RICKMAN
ROBERT GEORGE CLUTTON
JOHN SHAW
ARTHUR GARRARD
WILLIAM MATHEWS
JOHN CROSS
JOHN F. L. ROLLESTON
ARTHUR VERNON
HENRY DREW
FRED. THOS. GALSWORTHY
ALBERT BUCK
HERBERT THOMAS STEWARD
CHARLES BIDWELL
RICHARD HORSFALL

Professional Associates of Council.

EDWARD SMYTH
JOSEPH HENRY SABIN

Associates of Council.

SIR RICHARD EVERARD WEBSTER, Q.C., M.P.
JOHN WOLFE BARRY

The Report of the Council on the state of the Institution and the Statement of Receipts and Expenditure for the year 1891, were read.

It was Resolved—"That the Report of the Council and the Balance Sheet be received and approved, and be printed and circulated with the 'Transactions.'"

It was Resolved—"That the thanks of the Institution be given to Messrs. H. C. Newmarch and G. Cadell for the efficient performance of their duties as Auditors."

It was Resolved—"That the thanks of the Institution are due and be given to the President, the Vice-Presidents, and the other Members and Associates of Council, for the able manner in which they have administered the affairs of the Institution."

It was Resolved—"That the thanks of the Institution be given to Mr. John Wornham Penfold (the Honorary Secretary), to Mr. Julian C. Rogers (the Secretary), and the other Officers of the Institution, for the able manner in which they have executed their several duties."

The President presented the following Prizes won by Candidates in the Professional Examinations, 1892:—

THE INSTITUTION PRIZE OF THE VALUE OF £15 15*s*.

To Gerald Robert Squire, placed first in the Students' Proficiency Examination, 1892.

THE SPECIAL PRIZE OF THE VALUE OF £10 10*s*.

To Herbert William Raffety, placed second in the Students' Proficiency Examination, 1892.

THE CRAWTER PRIZE OF THE VALUE OF £10.

To Oliver Archer Richardson, for the best work in the subject of "Valuations" in connection with the Fellowship Examination, 1892.

THE DRIVER PRIZE OF THE VALUE OF £15 15*s*.

To George German, Jun., placed first in the Examination, (1892) for Non-Student Candidates for the Class of Professional Associates.

It was Resolved—"That the thanks of the Meeting be given to Messrs. R. M. Driver, H. C. Newmarch, R. T. Wreathall (Fellows), C. J. Parris (Professional Associate), and G. Cadell (Associate), for their services as Scrutineers."

A vote of thanks to The President for his conduct in the Chair was passed unanimously.

Before leaving the Chair the retiring President, Mr. Robert Collier Driver, begged the Institution to accept the gift of an official Jewel worked in gold and enamel, and inscribed as follows:—"Presented by Robert Collier "Driver, Esq., President 1890 and 1891, to be worn by "his successors in the Chair, as a mark of distinction, on all "official and public occasions."

The President elect, Mr. Charles John Shoppee, accepted the gift on behalf of himself and his successors in the Chair, and proposed a cordial vote of thanks to Mr. Driver for this additional proof of his interest in the honour and welfare of the Institution.

The vote of thanks was carried by acclamation, and the Meeting then separated.

THE TWENTY-FOURTH

ANNUAL REPORT OF THE COUNCIL.

Annual General Meeting, May 30th, 1892.

It is unnecessary to comment at length on the very large increase in the number of Members during the past year, due in a great measure to the advent of the system of compulsory Examination for admission to all classes of Professional Membership.

The Council have had an arduous, and in some respects an invidious, duty to discharge in adjudicating on the claims of the large number of applicants who sent in their names for election; but their task has been sensibly lightened by the valuable assistance and support they received from the Provincial Committees throughout the various districts of England and Wales.

The following table shows the net growth of the Membership during the year which closes to-day:—

TABLE A.—INCREASE OF MEMBERSHIP.

	Honorary Members.	Fellows.	Professional Associates.	Associates.	Students.	Total.
May 1892	11	1,646	342	97	172	2,268
May 1891	14	1,360	336	96	140	1,946
	−3	+286	+6	+1	+32	+322

This increase of 286 in the number of Fellows during the year is accounted for by 319 elections and transfers from the Class of Professional Associates, less 21 deaths and 12 cessers of Membership.

The increase of 6 in the number of Professional Associates is due to 36 elections, as against 27 transfers to the Fellowship, two deaths, and one resignation.

The class of Associates remains, as is usually the case, practically stationary, the elections of new Associates being almost exactly counterbalanced by the losses from death and esignation. There seems no reason why this class should not be augmented, as in many kindred Institutions, by the election of persons of distinction in the allied professions.

The addition of 32 to the number of Students is larger than in any previous year—a gratifying circumstance in view of the fact that the future maintenance of the numerical strength of the Institution depends entirely upon those who pass the examinations, to which the class of Students contributes a large contingent.

During the year, thirty-one Members of the Institution

have died, as compared with fourteen during the previous year. Among them are three out of the fourteen Honorary Members—Sir James Caird, C.B., the Right Honourable Viscount Hampden, and M. Bucaille of Havre. In Sir James Caird British agriculture has lost one of its foremost and most capable representatives. The name of M. Bucaille, who was a surveyor of eminence in France, will recall to the minds of those who formed the deputation to Paris in 1878 agreeable recollections of many pleasant offices rendered by him on that occasion.

But the Institution has sustained heavier, because more domestic, losses by the lamented death of our Past President, Mr. W. J. Beadel, M.P., of Mr. James Martin and Mr. H. J. Castle, for many years Members of the Council. Mr. Castle may be said to have died in the fulness of years; but Mr. Beadel, who succumbed to a casual illness, and Mr. Martin, whose death was the result of a lamentable accident, had apparently many years of active and useful life before them. Both were men of typical energy and force of character, who, each in his own way, exercised a powerful influence in his special sphere, and all three laboured zealously for many years to promote the best interests of the Institution.

The Council also record with regret the death of one of the Provincial Chairmen, Mr. R. Gillart of Machynlleth, of two Ex-Provincial Chairmen, Mr. J. E. Knollys of Taunton and Mr. J. Drew of Exeter, and of a former Associate of the Council, Mr. R. B. Grantham, who, with Mr. W. T. Carlisle and Mr. Joseph Lott, who also died during the year, was among the original Associate Members of the Institution.

The following Table shows the yearly growth of the Membership since the foundation of the Institution:—

Table B.

	Members (or "Fellows" after 1881).	Associates.		Students.	Total.
		Professional.	Ordinary.		
May 1869 ...	162	38		2	202
,, 1870 ...	180	59		2	241
,, 1871 ...	190	65		2	259
,, 1872 ...	205	67		4	276
,, 1873 ...	225	74		5	304
,, 1874 ...	247	89		6	332
,, 1875 ...	275	101		11	387
,, 1876 ...	300	119		8	427
,, 1877 ...	310	133		11	454
,, 1878 ...	312	134		8	454
,, 1879 ...	330	146		10	486
,, 1880 ...	342	155		10	507
,, ¶*1881 ...	357	164		14	535
,, 1882 ...	480	235		7	722
,, 1883 ...	557	218	74	38	887
,, †1884 ...	666	307	80	58	1121
,, 1885 ...	703	317	86	86	1192
,, 1886 ...	716	316	84	80	1196
,, 1887 ...	741	339	89	108	1277
,, 1888 ...	798	333	90	102	1323
,, 1889 ...	910	334	89	110	1443
,, 1890 ...	1095	310	89	123	1617
,, ‡1891 ...	1374	336	96	140	1946
,, 1892 ...	1646	342	97	172	2268

The total number of Members elected during the twenty-four years since the foundation of the Institution has been 2,502, of whom 192 have died, and 188 have from various reasons ceased to be Members. The annual average number of Members has been 819, and the average annual loss from death has been 8, = ·97 per cent., and from cesser of Membership nearly 8, or ·95 per cent., together equal to 1·92

* After August 1881 "Members" were designated "Fellows," and in 1883 "Associates" were divided into "Ordinary" and "Professional" Associates.

† The Compulsory Examination for Professional Associates came into operation in 1884.

‡ The Compulsory Examination for all classes of Professional Members came into operation in August 1891.

¶ The Charter was obtained on August 26th, 1881.

per cent. This percentage applied to the present number on the roll (2,096, exclusive of students) would suggest a probable average future annual loss, from the two causes above-mentioned, of forty Members per year, which can only be made good by new admissions under the examination system.

The extent to which this loss will be supplied in the future can be approximately estimated from the fact that during this year 66 Candidates have been successful in passing the Professional Associates' Examination, and, the average annual rate of increase in the numbers of successful Examinees in this class being about 20 per cent., it may be assumed that next year the addition to the number of Members from this source will be about 80, as against a probable loss of 40 as estimated above.

In these calculations the Candidates who have passed the Fellowship Examinations have not been included, as they represent transfers only. It has also been assumed that all successful Examination Candidates for the Associateship are subsequently elected, which is practically the case.

It will be thus seen that there is no prospect that the Membership will suffer any diminution. On the contrary, appearances seem to indicate the probability of a steady growth of numbers from year to year.

Finance.

Revenue.—The growth in numbers during the financial year ending December 31st, 1891, is of course reflected in the amount of subscriptions and entrance fees received, the former being £5,840 12*s.* 6*d.* as against £4,253 0*s.* 6*d.* in 1890, an increase of £1,588, and the latter £2,732 10*s.* as against £1,122 9*s.* in 1890, an increase of £1,660 in the year.

The amount received for hire of rooms shows a diminution in this source of revenue which has been almost

continuous for the last 10 years. Although a part of the falling off is no doubt due to the removal of legal business from Westminster, not a little may also be ascribed to the depression of public enterprise.

Dividends show an increase of £70 over the same item last year.

Expenditure.—On the expenditure side of the account, current outlay shows no considerable increase over that of the previous year.

The augmentation of the item "Insurance, Rates and Taxes" requires a word of explanation. An attempt to levy the new Corporation Duty of 5 per cent. per annum on the Income derived from invested funds, in lieu of Succession Duty, was resisted by the Council on the ground that the Institution came within the several exemptions of the statute imposing the tax, and that other professional bodies, apparently identical in constitution and aims, had successfully opposed the impost; but, on taking Counsel's opinion, the case for exemption did not appear to be so clear as to warrant the Council in embarking in a costly litigation with the Crown, and it was therefore decided to pay the four years' arrears claimed by the Inland Revenue Authorities, which appear under the head of Rates and Taxes.

The cost of publishing the "Transactions" is one of the heaviest items of expenditure, and the £391 4*s.* 7*d.* charged against it may be taken as a normal figure; the same item in last year's accounts (£562 2*s.*) representing six months' expenditure for 1889, not brought into account until 1890, in addition to the expenditure for the latter year.

The cost of the publication of the "Professional Notes" is practically the same as last year.

It will be observed that there is a very satisfactory increase in the Donations to the Library Fund.

The following is a Summary of the Balance Sheet for the year ending December 31st, 1891 :—

TABLE C. SUMMARY.

RECEIPTS.	£	s.	d.	EXPENDITURE.	£	s.	d.
Revenue Balance in hand, January 1st, 1891	48	17	10	Total Payments out of Revenue, Current Expenses	4,040	17	11
Capital Balance in hand, January 1st, 1891	723	16	1	Purchase of Stock	4,502	2	7
Total Revenue	6,117	17	6	Examinations	294	16	3
Transferred from Capital ...	2,500	0	0	Payments out of Capital—			
Entrance Fees carried to Capital Account	2,782	10	0	Furniture and Fittings ...	22	15	0
Interest	414	16	11	Purchase of Stock ...	498	19	0
				Transferred to Revenue ...	2,500	0	0
				Capital Balance in hand, December 31st, 1891 ...	494	10	1
				Revenue Balance in hand, December 31st, 1891 ...	233	17	6
	£12,587	18	4		£12,587	18	4

The Receipts and Expenditure for the year 1892, up to the date of this Report, may be summarised as follows :—

TABLE D.

RECEIPTS.	£	s.	d.	EXPENDITURE.	£	s.	d.
Revenue Balance in hand, January 1st, 1892	233	17	6	Payments out of Revenue—			
Capital Balance in hand, January 1st, 1892	494	10	1	Current Expenses ...	1,406	3	5
Total Revenue	5,456	14	4	Examinations	250	8	5
Transfer from Capital ...	650	0	0	Placed on Deposit ...	3,500	0	0
Entrance Fees	301	5	0	Purchase of India 3½ % Stock	1,001	4	0
Interest	4	19	0	,, ,, ,, ...	1,501	15	8
Withdrawn from Deposit ...	2,500	0	0	Revenue balance in hand, and on deposit, May 30th, 1892...	1,180	18	4
				Payments out of Capital—			
				Transferred to Revenue ...	650	0	0
				Capital Balance in hand, May 30th, 1892	150	16	1
	£9,641	5	11		£9,641	5	11

The Liabilities at the present time do not exceed £150.

During the portion of the year 1892, from January to the date of this Report, additions have been made to the Invest-

ments by the purchase of £2,345 15*s.* 4*d.* India 3 per Cent. Stock, thus making the total Corporation Investments at the present date as follows:—

£3,545 4*s.* 9*d.* Two and three-quarter per Cent. Consols, £1,545 Great Eastern Railway 4 per Cent. Debenture Stock, £1,505 London and North Western Railway 4 per Cent. Debenture Stock, and £4,685 10*s.* 4*d.* India 3½ per Cent. Stock, on Revenue Account; £539 11*s.* 2*d.* 2¾ per Cent. Consols on Library Account; and £9,030 7*s.* 11*d.* New 2½ per Cent. on Capital Account, and £254 in North British Railway Preference Stock, on account of the Crawter Bequest, making a total of £20,604 14*s.* 2*d.*, estimated at current prices to represent a sum of £22,174 18*s.* 9*d.*

Examinations.

The following Table shows the number of Candidates who have entered for and passed the Examinations during the 12 years since their establishment:—

Table E.

Years.	Preliminary Examinations.			Professional Examinations.		
	Candidates.	Passed.	Percentage.	Candidates.	Passed.	Percentage.
1881	13	6	46·15	2	1	50·00
1882	30	17	56·66	—	—	—
1883	44	22	50·00	25	22	88·00
1884	51	30	58.82	36	23	63·89
1885	46	37	80·43	43	31	72·09
1886	46	34	78·26	56	38	67·85
1887	53	39	73·58	58	45	77·59
1888	48	39	81·25	73	52	71·23
1889	51	41	80·39	71	51	71·83
1890	53	44	83·01	96	70	72·91
1891	76	60	78·94	92	68	73·91
1892	83	64	77·10	125	93	74·40
	594	433	72·89	677	494	72·97

The total number of 125 Candidates who came up this year for the Professional Examinations comprised 69 from the Provinces and 56 from the London district.

The aggregate number of marks awarded to all Candidates in the Examinations for the Professional Associateship and the Fellowship this year was 80,560, the possible maximum attainable being 137,200, and the percentage of marks gained being 58·71.

This statement includes, of course, both the successful and the unsuccessful Candidates. A more just estimate can perhaps be formed of the work done by eliminating the unsuccessful Candidates. Those who passed this year are then found to have obtained 64,390 marks out of a possible 100,400, or 64·13 per cent. of the maximum.

In Division II. the 35 non-Student Candidates obtained a total of 20,943 marks, or 59·60 per cent. of the maximum of 35,000; in Division III. the 61 non-Student Candidates were awarded 42,257 marks, or 57·71 per cent. of 73,200, the maximum for that Division; while the 29 Fellowship Candidates in Division IV. obtained 17,360 marks, or 59·79 per cent. of the maximum of 29,000.

An analysis of the marks gained by the Candidates in the three classes, Land Agency, Valuation, and Building, into which each Division is sub-divided, shows that the 39 "Land Agency" Candidates obtained 25,461 marks out of a maximum of 43,000, or 59·20 per cent.; the 62 "Valuation" Candidates 38,769 marks out of 67,600, or 57·35 per cent.; and the 24 "Building" Candidates 16,330 marks, or 61·48 per cent. of their maximum of 26,600.

A Candidate in Division II. (Valuation Sub-Division) won the Institution Prize of the value of £15 15*s.*, with a total of 786 marks out of a possible 1,000, and a Candidate in the Land Agency Sub-Division of the same Division the Special Prize of the value of £10 10*s.*, with 750 marks out of a maximum of 1,000.

The "Driver" Prize of the value of £15 15*s.* was gained by a Land Agency Candidate in Division III., with an aggregate of 955 marks out of a possible 1,200.

The "Crawter" Prize has this year been again awarded to the Candidate most successful in the subject "Application and Use of Valuation Tables," and has been won by a Candidate in the Building Sub-Division of the Fellowship Examination with a total of 84 per cent. of the marks obtainable in the subject.

Our lamented colleague, the late Mr. W. J. Beadel, M.P., gave an additional, and unhappily a last, evidence of his interest in the welfare of the Institution by bequeathing a sum of £200, under his will, for the foundation of a prize in connection with the Institution Examinations. The Council rejoice that his name will be perpetuated in this connection, and propose, as in the case of Mr. Crawter's bequest, to allow the money to accumulate until the interest is sufficient to provide an Annual Prize of similar amount.

In view of the altered conditions of admission to Membership, the Council have considered it desirable to resume, in a modified form, the Examination in Division V. which has been suspended for some years past.

It will be remembered that the Examination system provides two modes of qualifying for the Fellowship—one for the younger men who have passed the Associateship Examination, and who can then qualify for the Fellowship in one of the Sub-Divisions of Division IV. With this Examination it is not proposed to interfere in any way. The other mode is the passing of a direct Fellowship Examination, without previously passing the Associateship Examination. This mode of qualifying for the Fellowship is intended for men of more mature years, and it is to this alone that the following alterations relate.

The "Land Agency" Sub-Division of this (Division V.) Examination has hitherto embraced 14 subjects, representing 37 hours' work; the "Valuation" Sub-Division, 12 subjects, representing 30½ hours' work; and the "Building" Sub-Division, 15 subjects, representing 39½ hours' work.

The "Land Agency" Examination will now be reduced to eight subjects, representing 21 hours' work; the "Valuation Examination to nine subjects, representing 21½ hours' work; and the "Building" Examination to seven subjects, representing 22 hours' work. Thus the "Land Agency" Examination will be shortened by 16 hours, the "Valuation" Examination by 9 hours, and the "Building" Examination by 17½ hours.

The effect of the reduction will be to compress the Examination in this Division within about 2½ days instead of 5 days as heretofore—a length prohibitory to most men in active practice—and it is hoped the result will be to attract a satisfactory number of Candidates. It should, however, be added that the Pass-Marks have been raised

from 1,000 out of 2,000 to 900 out of 1,500, in consideration of the reduction in the number of subjects.

The following will be the Conditions of Candidature:—

1. The Candidate to be over 30 years of age at the date of the Examination;

2. To have been in practice on his own account not less than three years, *commencing at a date anterior to the 26th August*, 1891; and

3. To be required to obtain, for passing, 900 out 1,500 maximum Marks.

There is evidence in the Secretary's correspondence that there are a good many Members of the Institution (as well as many surveyors of from 30 to 35 years of age, engaged in practice, who have neglected to join the Institution under the old qualification) who cannot spare the time to pass both the Associateship and the Fellowship Examinations, or, in lieu of them, an Examination of such inordinate length as the Examination in Division V., but who would probably be willing to come up for the latter Examination, under the above conditions, modified on the following lines:—

Division V. (as modified).

Examination for Candidates (other than those who have passed the Examination in Divisions II., III., and IV.) for the Class of Fellows.

Sub-Division I.—Chiefly Land Agency.	Sub-Division II.—Chiefly Valuation.	Sub-Division III.—Chiefly Building.
1. Law of Landlord and Tenant (Elements of).	1. Law of Landlord and Tenant.	1. Bills of Quantities. (Fellowship Papers.)
2. Agriculture (and Customs of Country).	2. Law of Fixtures, Dilapidations, Easements, and Riparian Rights.	2. Constructive and Working Drawings.
3. Construction of Farm Buildings.	3. Enfranchisement of Copyholds.	3. Law of Fixtures, Dilapidations, Easements, and Light and Air.
4. Forestry, *or* Timber Measuring.	4. Timber Valuing and Measuring.	4. Road Making.
5. Land Drainage.	5. Sanitary Science as applied to Buildings.	5. Sanitary Science as applied to Buildings.
6. Geology and Composition of Soils, *or* Agricultural Chemistry (Parts 1, 2, 3, 4, and 5 of Syllabus.)	6. Principles and Practice of Valuation.	6. Principles and Practice of Valuation.
7. Principles and Practice of Valuation.	7. Land Clauses Acts.	7. Report.*
8. Report.*	8. Development of Building Estates (New Subject.)	
	9. Report.*	

* A report on a special subject appropriate to his Sub-Division will be required of each Candidate in this Division.

It will be observed that a new subject, "Development of Building Estates," has been added to the Examination in the Valuation Sub-Division; and that the subject "Application and Use of Valuation Tables" has been renamed, "Principles and Practice of Valuation," for the purposes of the Fellowship Examination, as more accurately representing the nature and scope of the higher Examination in this subject.

The Council have also made a modification in the "Valuation" Sub-Division of the Professional Associateship Examination, by the transference of the Paper on the "Application and Use of Valuation Tables" from the Fellowship to the Associateship Examination (this being an addition to the technical subjects, in which the Examination in this Sub-Division has hitherto been decidedly deficient) and have substituted for it a higher paper in the same subject in the Fellowship Examination.

No Special-Certificate Examination has been held since June 1890; but it is proposed to hold a Special Examination in the subject of "Sanitary Science" in June next. The Council regret that the Forestry Examination fails to attract the expected number of Candidates; but the fact is probably accounted for by the absence of any organised system of instruction in England in this very important subject.

The Council must again express the obligations they are under for the valuable assistance rendered by the large staff of Honorary Examiners, who so generously give their services to the work of the Institution. They desire to record their special indebtedness to Mr. F. Meadows White, Q.C., Mr. F. A. Philbrick, Q.C., Mr. E. J. Castle, Q.C., Mr. Willis Bund, Mr. G. J. Brown, Mr. T. A. Dickson, Mr. W. Eve, Dr. W. Fream, Mr. E. B. I'Anson, Mr. H. Jonas, Mr. C. J. Mann, Mr. G. E. Morrison, Mr. Gilbert Murray, Mr. T. Jones, Mr. H. A. Rigg, Mr. A. R. Stenning, and Mr. J. Wigram, as well as to their colleagues who have undertaken similar duties; and to Messrs. Bertwistle, Bridgford, Hargraves, Holden, and Murgatroyd, who acted so efficiently as Moderators at the Branch Preliminary Examination, held at Manchester simultaneously with the London Examination on the 26th and 27th of January last.

Provincial Committees.

During the year it was decided, at the request of Members in West Sussex who were not represented in the system of Provincial Committees, to form a Committee for the county of Sussex, comprising in it those Members in East Sussex who were previously attached to the Kent Committee, thus bringing up the total number of Provincial Committees to 17.

In consequence of representations from other parts of England that several of the present Committee areas are inconvenient with reference to the means of railway communication, the rearrangement mentioned as in contemplation in last year's Report, will be effected during the coming recess.

The Council have already referred to the valuable services rendered by the Committees in reporting on applications, from their respective districts, for Membership of the Institution. The old five years' practice qualification having come to an end in August last, this particular form of reference to the Provincial Committees will of course be no longer practicable, as all Candidates are now required to pass a qualifying Examination, which, in fairness to them, must be preceded rather than followed by inquiries into their professional antecedents. It is therefore proposed in future to submit copies of all applications for the Professional Examinations to the Provincial Committees, and to invite from them an expression of opinion as to the fitness of the Candidates from their respective districts, before their names are placed on the Examination list.

The following Table shows the increase in the number of Fellows forming the different Provincial Committees:—

Table F. Provincial Committees.

	Committee.	Chairman.	No. of Members. 1891.	1892.
A	Northern Counties	Mr. W. J. Heskett...	40	49
B	Counties Palatine	,, J. W. Fair ...	74	105
C	Yorkshire	,, R. Horsfall ...	61	93
D	Salop, Hereford, Radnor, and North Wales	,, H. J. Wyley ...	45	54
E	Derby and Stafford	,, C. H. Inge ...	31	36
F	Notts and Lincoln	,, W. Wright ...	45	52
G	Monmouth and South Wales ...	,, J. M. Davies ...	22	33
H	Warwick, Worcester, and Gloucester	Major W. T. E. Fosbery	52	63
I	Leicester, Northampton, and Rutland	Mr. H. Humphreys	39	47
J	Cambridge, Huntingdon, Norfolk and Suffolk		46	55
K	Berks, Bucks, Oxon, and N. Wilts...	,, F. B. Buckland	52	62
L	Beds, Essex, Herts, and Middlesex	,, G. B. Hilliard...	42	47
M	Devon and Cornwall	,, J. G. Cooper ...	35	40
N	Somerset, Dorset, and Bristol ...	,, E. Hippisley ...	39	42
O	Hants and South Wilts	,, W. R. Canning	66	79
P	Kent	,, G. Langridge ...	50	59
Q	Sussex	,, J. Woodhams ...	*14	†30
			753	946

Being an increase in the number of Fellows in the Provincial Districts of 193, or 25·63 per cent. since the date of the last Report.

Junior Meetings.

A Third Series of four Meetings has been held during the Session, at which several creditable Papers have been read.

The average attendance at these Meetings has been fairly satisfactory, and sufficient to warrant their continuance.

* East Sussex only. † Whole County.

Council and Committee Meetings.

Fifty-one Council Meetings and Meetings of the various standing Committees have been held during the year, the attendances at which are shown below:—

Attendances,

From May 11th, 1891, to April 25th, 1892 (both inclusive).

NAME.	Attendances at Council Meetings.	Attendances at Committee Meetings.	Total Attendances.
Members.			
Beadel, W. J., M.P. (deceased)	4	—	4
Bidwell, C.	2	1	3
Buck, A.	9	—	9
Clarke, T. C.	9	10	19
Clutton, J.	1	—	1
Clutton, R. G.	8	—	8
Cross, J.	2	—	2
Drew, H.	1	—	1
Driver, R. C.	15	14	29
Dunlop, A. M.	9	2	11
Galsworthy, F. T.	6	6	12
Garrard, A.	8	18	26
Mathews, W.	5	—	5
Oakley, C.	10	1	11
Rickman, T. M.	17	25	42
Rolleston, J. F. L.	7	—	7
Ryde, E.	2	—	2
Shaw, J.	4	—	4
Shoppee, C. J.	9	10	19
Steward, H. T.	12	12	24
Sturge, W.	—	—	—
Squarey, E. P.	7	—	7
Vernon, A.	10	3	13
Vigers, F.	—	—	—
Vigers, R.	4	7	11
Watney, D.	15	13	28
Professional Associates.			
Sabin, J. H.	13	8	21
Smyth, E.	13	3	16
Associates.			
Barry, J. W.	—	—	—
Webster, Sir R. E., Q.C., M.P.	—	—	—

A large amount of arduous and intricate work arose out of a request on the part of the President of the Local Government Board for the opinion of the Council with reference to the Government proposals for the Codification and Amendment of the London Building Acts.

After four months' work, a Memorandum embodying the suggestions of the Council was forwarded to the President of the Local Government Board on the 15th February last, and these suggestions will, it is hoped, impress themselves on any measure which may ultimately be submitted to the Legislature. Those Members who know the difficulty and complexity of the subject will readily understand the amount of labour involved in the preparation of a Memorandum of the kind, and the Council are glad to have the opportunity of acknowledging the valuable services in this connection rendered by some leading Building Surveyors, as well as several District Surveyors, all Members of the Institution, who were associated with them in the work.

Publications.

The 24th Volume of the "Transactions," now on the point of completion, contains Papers of somewhat exceptional value. Among those contributed by Members may be mentioned the interesting and exhaustive Paper by Mr. C. H. Bedells on "Party and Party-Fence Walls"; the valuable Paper by Mr. W. H. Morris on "The Four-Course System"; an excellent Paper by Mr. J. W. Grover on "The London Water Question"; and the learned Essay by Professor E. Kinch on "The Valuation of Feeding Stuffs and Foods," as well as the Paper on "Leases to Limited Liability Companies" by Mr. E. G. Wheler, and

on "The Scientific Study of Timber" by Professor G. E. S. Boulger. The volume also includes an interesting Paper by a Non-member, Mr. J. R. Adams, on "The Title to Land, its Registration and Transfer."

The "Professional Notes," which meet with so many expressions of approval from the Members, contain the usual amount of useful and interesting information, and it is hoped that the Members will do their best to maintain them at the present standard of excellence, by contributing short articles on points of current interest, and by making a larger use of this publication for that interchange of individual knowledge for which it is designed.

Library.

No very large addition to the number of books in the Library has been made during the year, for the reason (want of shelf room) referred to in several previous reports; but the topographical collection, which was all but complete so far as county histories are concerned, has received an important, though a costly, addition by the purchase of a fine copy of Nichols' "Leicestershire."

It is proposed to issue a new edition of the Library Catalogue next Session.

The increase of the Library, as has been said, is associated with the structural enlargement of the premises occupied by the Institution, and this very important question is placed in abeyance for the time being, pending the development of the projected Westminster Improvement Scheme now before Parliament. The Council have recently entered into a provisional agreement with the promoters for

re-housing the Institution on satisfactory terms, on another site, and, should the scheme be carried out, it is hoped that the Institution will become possesssed of premises sufficient for its needs for many years to come.

General.

The Council have arranged for the registration of articles of pupilage, or other equivalent agreement, free of charge, in the books of the Institution, the object being to identify the rising generation with the Institution, at the earliest period of their professional career, and in order that the advantages offered by the Examination system, and alterations made in it from time to time, may be brought under their notice. A large number of young Surveyors have already availed themselves of this arrangement, and the Council trust that the Members will see that the names of their pupils are duly recorded in the books of the Institution.

It will be agreed that the foregoing is a record of substantial progress. The next few years will be a period of transition, and it is but reasonable to expect some slackening in the recent rate of expansion; but the Council believe that the proofs which the Institution has given of practical usefulness, its high reputation among professional bodies, and, above all, the undeviating loyalty and devotion of its Members, may be trusted to endow the new era, upon which the Institution is now entering, with the assurance of success.

REVENU

1891.	RECEIPTS.	£	s.	d.	£	s.	d.	£	s.
1254	Fellows' Subscriptions for 1891, at £3 3s.	3,950	2	0					
10	" " in advance for 1892, at £3 3s.	31	10	0					
260	New Fellows' " " " at £3 3s.	819	0	0					
19	Fellows' " arrears at £3 3s.	59	17	0					
3	" " part paid	3	13	6					
					4,864	2	6		
372	Professional Associates' and Associates' Subscriptions for 1891, at £2 2s.	781	4	0					
1	Professional Associate's Subscription in advance for 1892, at £2 2s.	2	2	0					
28	Professional Associates' and Associates' Arrears at £2 2s.	58	16	0					
					842	2	0		
122	Students' Subscriptions for 1891 at £1 1s.	128	2	0					
4	" " in advance for 1892, at £1 1s.	4	4	0					
2	" " arrears, at £1 1s.	2	2	0					
					134	8	0		
								5,840	12
	Hire of Arbitration Rooms							277	5
	Dividends							404	18
	Transferred from Capital							2,500	0
	Cash at Bankers and in hands of Secretary, January 1st, 1891							48	17
								£9,071	14

CAPITA

466	New Fellows' Entrance Fees, at £5 5s.	£2,446	10	0				
52	Fellows' Entrance Fees, Balance on Transfer, at £2 2s.	109	4	0				
					£2,555	14	0	
72	New Professional Associates' and Associates' Entrance Fees, at £3 3s.				226	16	0	
								£2,782 10
	Interest on North British Railway Preference Stock (Crawter Bequest)							9 18
	Balance at Bankers, January 1st, 1891							723 16
								£3,516 4

LIBRAR

Donations to December 31st, 1891	£556 10
Dividends	15 15
Balance at Bankers, January 1st, 1891	362 8
	£934 9

SU

Revenue Account	£9,071 14
Capital "	3,516 4
Library "	934 9
	£13,522 7

ASSETS AN

	Cash at Bankers and in hands of Secretary							£1,618 11
	Value of Furniture and Books							4,287 8
	Value of Investments—							
£4,084 15 11	$2\frac{3}{4}$ per Cent. Consols, at $95\frac{1}{4}$				£3,890	16	0	
9,030 7 11	New $2\frac{1}{2}$ per Cents., at $93\frac{1}{2}$				8,443	8	11	
254 0 0	North British Railway Preference Stock (Crawter Bequest), at 117				297	3	6	
1,545 0 0	Great Eastern Railway 4 per Cent. Debenture Stock, at 129				1,993	1	0	
1,505 0 0	London and North Western Railway 4 per Cent. Debenture Stock, at 135				2,031	15	0	
2,359 15 0	India $3\frac{1}{2}$ per Cents., at $106\frac{1}{2}$				2,491	16	8	
								19,148 1
	Subscriptions and Entrance Fees due, but unpaid at date							556 10
	Fees for use of Rooms due, but unpaid at date							64 11
	Value of Premises, Nos. 12 & 13A, Great George Street							7,300 0
								£32,975 3

COUNT.

891. **EXPENDITURE.**

	£ s. d.	£ s. d.	£ s. d.
- - - - - - - - - - - - - - - -	375 7 6		
ance, Rates, and Taxes - - - - - - - - - - - - - - -	318 10 8		
Light, and Water - - - - - - - - - - - - - - -	89 0 7		
		782 18 9	
rs -		73 17 1	
nery, Postage, and Receipt Stamps, Books of Account, Publications, &c. - - - - -		388 5 1	
es of Secretary and Staff - - - - - - - - - - - - - - - -		1,402 11 1	
skeeper's Wages and Allowances - - - - - - - - - - - - - -		138 8 11	
shold Effects, Housekeeper's Petty Cash Expenses, Tea, Coffee, and Sundry Disbursements		162 1 4	
inations—Examiners' Fees - - - - - - - - £138 14 6			
Printing, Lithography, Hire of Instruments, and Sundry Disbursements - - - - - - 239 0 0			
	377 14 6		
Less Candidates' Fees forfeited - £100 16 0			
Sale of Examination Rules - - 17 17 3			
	118 13 3		
	259 1 3		
Prizes - - - - - - - - - - - - - -	35 15 0		
		294 16 3	
ation of "Transactions"—Printing and Lithography - - - - -	383 1 10		
Binding - - - - - - - - -	8 0 3		
Reporting - - - - - - - - -	38 17 0		
	429 19 1		
Less Sale of "Transactions" - - - -	38 14 6		
		391 4 7	
ation of "Professional Notes"—Printing and Lithography - - -	274 17 6		
Less Sale of "Professional Notes" - - -	22 5 0		
		252 12 6	
ncial Committees—Printing and Sundry Disbursements - - - -	44 17 5		
Less refunded by Chairman - - - -	0 12 0		
		44 5 5	
ase of £1,505 London and North Western Railway 4 per Cent. Debenture tock - - - - - - - - - - - - - - -	1,999 2 6		
ase of £2,339 15s. India 3½ per Cent. Stock - - - - - - - -	2,503 0 1		
		4,502 2 7	
al Printing - - - - - - - - - - - - - - - -		305 5 0	
Charges and Advertisements - - - - - - - - - - - - - -		99 8 2	
at Bankers and in hands of Secretary, December 31st, 1891 - - - - - - -		233 17 6	
		£9,071 14 3	

COUNT.

ase of Furniture and Fittings - - - - - - - - - - - - - - -		£22 15 0
ase of £390 Great Eastern Railway 4 per Cent. Debenture Stock - - - - -		498 19 0
ferred to Revenue - - - - - - - - - - - - - - - -		2,500 0 0
ce at Bankers, December 31st, 1891 - - - - - - - - - - - - -		494 10 1
		£3,516 4 1

COUNT.

ase of Books, Maps, &c. - - - - - - - - - - - - - - - -		£44 5 0
ce at Bankers, December 31st, 1891 - - - - - - - - - - - - -		890 4 2
		£934 9 2

RY.

ue -		£8,837 16 9
al -		3,021 14 0
ty -		44 5 0
ces—Deposit at Bankers and in hands of Secretary, December 31st, 1891 - - - -		1,618 11 9
		£13,522 7 6

ABILITIES.

uarter's Rent to Christmas 1891 - - - - - - - - - - - - - -		£96 5 0
ng and various Accounts unpaid - - - - - - - - - - - - - -		422 11 8
ce -		32,456 6 7
		£32,975 3 3

Examined with the Books and Vouchers, and found correct,

May, 1892.

H. C. NEWMARCH.
GEORGE CADELL,

APPENDIX TO VOL. XXIV.

Obituary.

WILLIAM JAMES BEADEL, M.P. (Past-President), was the son of the late Mr. James Beadel, of Broomfield Lodge, Chelmsford, and was born on March 29th, 1828. His ancestors had resided in the county of Essex for several centuries. One of his progenitors was William Bedell (the original way of spelling the name), Bishop of Kilmore, who was born in 1570, in the parish of Black Notley. The deceased Member spent nearly the whole of his life in the division of which he was the first representative in Parliament, and formerly lived at Brentwood, afterwards removing to Oakhurst, South Weald, and subsequently to a house in Chelmsford High Street, where his wife died in 1865. At an early age the deceased was admitted into partnership with his father, who acted for the Great Eastern Railway Company and the London, Tilbury, and Southend Railway Company in the purchase of land for the construction of their lines. In 1846 Mr. F. Chancellor was induced to come from London to Chelmsford at the instance of the late Mr. James Beadel, and he continued in partnership with him and Mr. W. J. Beadel until 1860, when the partnership was dissolved. Mr. Beadel, Sen., died three years later at St. Leonard's. Upwards of twenty years ago Mr. W. J. Beadel removed to the Lyons, Springfield, where he

resided until some three years since. He then took up his residence at Hutton Hall, formerly the property of the late Mr. John Offin. With the purchase of the hall, Mr. Beadel acquired the lordship of the manor of Hutton.

Endowed with marked business capacity, Mr. Beadel rose to great eminence in his profession. As a surveyor his services have for many years been in demand in arbitration and railway compensation cases, while as an umpire in many important cases he assessed the value of property worth hundreds of thousands of pounds. Only the day before he was seized with his fatal illness he sat as umpire at Manchester in an important case, *The Dewhurst Link* v. *The Lancashire and Yorkshire Railway Company*. In connection with the construction of the Manchester Ship Canal he was engaged as umpire in several great arbitration cases, and there are few men living who had a more extensive experience in work of this nature. In the management of estates Mr. Beadel was also remarkably successful. Enormous properties in various parts of the country have at different times passed through his hands, and at the time of his death he was Consulting Surveyor to the extensive London and country estates belonging to the Duke of Bedford. He was a complete master of all agricultural topics, and in 1881 was called upon to give evidence before the Royal Commission on Agriculture. When he lived at Springfield he farmed several hundred acres of land, although he stated while under examination as a witness in the case of *Peacocke* v. *Chancellor*, which was heard some two months ago, that he had "dropped a good deal of money over it." He engaged extensively in the breeding of shorthorns and Jerseys, and his sales attracted buyers from all the country side. Mr. Beadel was a promoter and director of the Auction Mart Company, and in 1885, on the death of Mr. George Trist, he became chairman.

Mr. Beadel was one of the founders of The Surveyors' Institution, and was elected on the first Council on its formation in 1868, becoming a Vice-President in May 1878, and being subsequently elected President for the years 1886-7 and 1887-8.

Before public duties made such heavy inroads on his scanty leisure, he was in the habit of attending most of the evening Meetings, but rarely spoke, except on subjects which specially appealed to him as an owner and occupier of land in a part of England which has suffered, perhaps more than any other, from the depression in agriculture.

As a speaker his style was fluent though a little lacking in the sense of proportion, but it had a quality of downrightness which, associated with a fine presence and a sonorous voice, always secured him a cordial reception. In his two opening addresses, as President of the Institution, he dealt comprehensively with the many questions affecting property interests. These were, unfortunately, his only contributions to the "Transactions," but they served to show the calibre of the man. In both he made little or no attempt to conceal his economic heresies on the subject of free imports of corn. He was, in fact, a protectionist with the courage of his convictions, disdaining, with characteristic frankness, to hide them behind any of the thin disguises which now find favour with more timid politicians; indeed, his reservations on this subject, such as they were, had more the air of tenderness towards the less robust faith of others than abatement of his own convictions.

He frequently denied that the prevailing fiscal system was entitled to be described as free trade. "It is," he used to say, "a system of free imports and taxed exports." He asserted that the predictions of Cobden had never been verified, and pointed to the fact that while Cobden expected his views to spread practically all over the world, England

still remained the only country committed to a so-called free-trade policy. He was accustomed to argue that it could not possibly be an economically sound arrangement which led to land in Essex, within 30 or 40 miles of a market where there are 4,000,000 of mouths, growing nothing but weeds and thistles, or to be let, in some cases, at a mere peppercorn rent. "If," he often said, "low-priced bread meant "non-employment of labour on the soil, and the absence "of full time in our hives of industry, it was dear at any "price."

No one felt more keenly the weakening in recent years of the traditional ties uniting landlord and tenants, brought about by the prolonged depression in agriculture. On this subject he was a decided pessimist, and refused to be comforted by vaticinations which rested on any other foundations than the price of corn. Whenever the subject was mentioned, he was generously eager that justice should be done to the large class of owners who have made such immense sacrifices to enable their tenants to hold their ground, and he was not sparing in his criticism of those who, in his opinion, were seeking to introduce elements of suspicion and mistrust into the relations of owners and occupiers of land.

He was no seeker of popularity for its own sake, but it is no matter for wonder that these opinions fell on receptive ears in a district like Mid-Essex, stricken with some of the worst consequences of prolonged agricultural misfortune; and his appearance in the field of politics in March 1884 led at once to his recognition as a proper candidate for Parliamentary honours, and when the Redistribution of Seats Bill was passed 12 months later the Conservative party paid him the compliment of asking him to contest the division. The election took place on 30th November, 1885, Mr. Beadel obtaining a majority of 1,242

over his opponent. He was highly elated at the result and at being chosen to represent in Parliament the constituency in which he had lived nearly all his life.

"Gentlemen," he said, in a short speech after the declaration of the poll, "I need scarcely say how gratifying "this result is to me. Boys are very apt to talk with one "another as to what their greatest ambition in life would "be, and those who remember me forty years ago, or "nearly so, will remember my saying that the highest "ambition I should have in life would be to sit in the "legislative chamber of my country for a division in which "I lived. You have placed me in that proud position, and "for that I am immensely indebted to you."

With a majority so substantial his seat, naturally, was uncontested when Parliament was dissolved in the following year, and he retained it to the time of his death. The occasions on which he addressed the House were few. Mere abstract questions had no fascination for him; his voice was heard only when matters of which he possessed actual practical knowledge were under discussion. He was, in fact, a working, as distinguished from a talking, Member of the House, giving ungrudging service in Committees and on Royal Commissions, where his practical faculties were of most value to the country. This was notably the case in connection with the Royal Commission on Tithe Rent-Charge Redemption, and the Committee on Town Holdings, of which he was one of the original members.

But the attempt to live two lives at once: to devote laborious days to the conduct of an extensive business, requiring an unusual amount of personal attention, followed by long hours in the heated atmosphere of the House of Commons, told with disastrous effect even on a constitution such as he possessed. For two years before his death his friends saw and noted a change in him, principally evidenced

by a certain excitability and half-restrained peremptoriness of manner, the sure signs of overwork. It was not, however, until about the 10th of March that grave symptoms made their appearance. On that date he attended the House of Commons, to vote against the Bill for repealing the Clause in the Eastbourne Improvement Act, which excited so much feeling early in the present year, and on returning to Hutton Hall, after the division, congestion of the lungs, pleurisy, and bronchitis manifested themselves in an alarming form. After many fluctuations, his powers finally gave way, his death resulting from failure of the heart's action on April 5th, 1892.

It would be difficult to meet with a man of finer physical endowments than those possessed by Mr. Beadel when in his prime. A tall commanding figure, the *beau ideal* of strength and activity combined, a fine alert carriage, a bold and fearless manner, associated with a quick intelligence and great kindness and cordiality of nature, all marked him out for the leading position in his profession which he occupied for some years past. These qualities, which made him an effective witness, served him not less in the office of umpire, for which towards the end of his life he was selected with increasing frequency. He possessed an enormous capacity for work, and frequently astonished those connected with him by the celerity of his movements, and the rapidity with which he gathered up the numerous threads of a difficult and varied practice. His interest in young men was a most noticeable feature in his character. This was especially the case where the welfare of the junior members of the Institution was concerned. He was a warm and consistent advocate of the Examinations, and rarely failed to put in an appearance when they were in progress, and to take the keenest interest in the details. The Institution owes him a deep debt of gratitude, not only for the services

he rendered for so many years as a member of the Council, but for the example he offered of high skill in his profession, combined with a lofty ideal of the principles of honour and uprightness which should characterise persons called upon to deal with interests so important as those entrusted to the profession to which he belonged, and which he did so much to adorn.

JAMES BINFIELD BIRD (Fellow) was born in the year 1831, in the County of Bucks, and, being at an early age left fatherless, was educated by his uncle, Mr. J. Lee Binfield. He was articled to Mr. Trumper, of Windsor, and afterwards to Messrs. Drivers, of Whitehall; and was subsequently appointed Steward of the Ward Estate in the Isle of Wight, which agency he held for 17 years, relinquishing it in 1875. Mr. Bird was a director of several public companies, and filled many important municipal and professional offices. He was elected a Fellow of The Surveyors' Institution in August 1868, and died after a short illness from internal hemorrhage, on February 6th, 1892.

WILLIAM ANTHONY BOWLER (Fellow) was articled to Mr. Gilbert, of Colchester, about the time that the commutation of tithes gave rise to so large an amount of professional work; subsequently he was for a long period a principal assistant in the office of Messrs. Clutton. A partnership of some years with Mr. Driver ensued, after which he practised in the eastern counties. His work was marked by completeness, and very varied ability. He died in August 1891, at the age of 72, having for some time previously been a sufferer from paralysis.

DOMINIQUE EUGÈNE BUCAILLE (Honorary Member), who died at Havre on the 27th of November,

1891, at the age of 81 years, was elected an Honorary Member in November 1878, after the visit of the Institution Delegates to the International Conference of Surveyors, held at Paris in connection with the French Exhibition of that year. He was born at Turretot in the year 1811, and was appointed, at the age of 27, to a prominent post under the Municipality of Havre, but three years after resigned it in order to practise privately. In 1859 he was elected a Member of the Central Committee of the Société des Géomètres-Experts de France, and soon after became Vice-President. In 1878 he, with MM. Lefévre de Sucy, Pottier, Hachet, and Derivry, represented the Surveyors of France at the International Conference, held at the Trocadero, in Paris, at which Mr. E. Ryde, Mr. C. J. Shoppee, and Mr. T. Huskinson were present, as representing the interests of the profession in England. M. Bucaille was a man of most genial manners, and was held in deep and deserved respect by his brethren in France.

EDWARD HENRY BURNELL (Fellow), who died in April 1892, at the age of 71, was one of the earliest Members who joined the Institution on its formation in 1868. He was articled as pupil to the late Mr. James Beadel, of Witham, Essex, and held the appointment of Surveyor to the Skinners' Company, to Marshall's Charity, Southwark, Edward's Charity, and others. He was also Honorary Secretary of the Surveyors' Association in succession to the late Mr. Virgoe Buckland. Mr. Burnell was one of the most genial of men, and enjoyed a deserved reputation in his branch of professional practice.

WILLIAM THOMAS CARLISLE (Associate) was among the earliest Members of the Institution, having been elected on the 26th July, 1869. He was a Solicitor in large

practice, especially in connection with landed property. He died on February 13th, 1892, of bronchitis, at the age of 72, at his residence, The Elms, Ewell, Surrey, after a short illness.

HENRY JAMES CASTLE, Senior (Fellow), was born on the 28th of August, 1809, and died on the 28th of November, 1891.

He was educated at a private school at Edmonton, and at St. Mary's Hall, Oxford, and while still a young man went to Canada, where he was for some time in the Surveyors' Department, of which Sir James Bonnycastle, R.E. was head. He afterwards held the appointment of Surveyor to the City of Toronto, and during the rebellion of 1835 did military duty as an officer of the Canadian Militia. He afterwards, on account of the health of his wife, returned to England, and was employed in the construction of a portion of what is now known as the London and North Western Railway. On the completion of this work he accepted the Professorship of Surveying at King's College, occupying that position from 1841 to 1880, in which year he retired.

He was for many years in practice as a Railway Surveyor, and gave great attention to the subject of Rating, more especially Railway Rating, on which he wrote several text-books. He was also the author of works on Surveying and Levelling, which still enjoy some reputation, and of a Paper on "Contributive Value" in connection with Railway Rating, published in the 11th Volume of the "Transactions." Mr. Castle was elected a Member of The Surveyors' Institution on January 19th, 1874, and occupied a seat on the Council from May 1880 until his resignation from ill-health in 1890. He was also a Member of the Institution of Civil Engineers, and for some time occupied a seat on the Council of that body.

SIR JAMES CAIRD (Honorary Member) was the son of Mr. James Caird of Stranraer. He was born in 1816, and was educated at the High School and University of Edinburgh. He early devoted himself to the study of agricultural economy, and in 1849 published a treatise on "High Farming as a Substitute for Protection," which attracted much public attention. In 1856 he was appointed a Commissioner of the *Times* to inquire into the prevailing agricultural distress. The letters written during that inquiry, and forming the only general account of agriculture throughout England since Arthur Young's time, were translated and published in many foreign languages. In 1857 he was elected to represent Dartmouth in Parliament, and from 1859 to 1865 sat for Stirling. In 1860 he was appointed a Member of the Fishery Board, and in 1863 Chairman of the Royal Commission on Sea Fisheries. In 1865 Mr. Caird became an Inclosure Commissioner, and subsequently Senior Member of the Land Commission. In 1869 he received the Companionship of the Bath, and in 1882 was created K.C.B. On the formation of the Board of Agriculture he became a Member of the Board and a Privy Councillor. He was a Fellow of the Royal Society, a J.P. for Kirkcudbrightshire, and D.L. and J.P. for Wigtonshire, and was elected an Honorary Member of the Institution in 1875.

WILLIAM COWGILL (Fellow), of Bradford, received his professional training under the late Mr. G. T. Lister, whom he succeeded as Agent of the Rawson Estate at Bolton. For more than 40 years he acted as Agent of Sir M. Wilson's and of the Wainman Estates. He also held many other important appointments, and had a considerable reputation as witness and arbitrator in compensation cases.

He was a Fellow of the Institution from 1878 to the

time of his death, which resulted from an attack of bronchitis, following influenza, in the 72nd year of his age. Mr. Cowgill was held in high and deserved estimation throughout the North of England, and combined in himself all the best characteristics of the large class of professional Members, of which he was so worthy a representative.

THOMAS NUNN DEBENHAM (Fellow), a partner in the firm of Debenham, Tewson, Farmer, & Bridgewater, died in November 1891, at Cairo, whither he had gone for the sake of his health, severely impaired by the shock caused by the death of his son, Hugh Debenham (a Student of the Institution), who was accidentally drowned on August 26th, 1891.

Mr. Debenham, whose death occurred in the 54th year of his age, was educated at Bruce Castle, Tottenham, and became in 1853 connected with the firm of which in 1861 he was made a partner.

JOHN DREW (Fellow), of Exeter and Powerham, in the County of Devon, learned his business as a Surveyor and Land Agent in the office of Messrs. Dymond & Dawson, of Exeter, and joined his father in business just at the time the Tithe Commutation Act was passed in 1836. His father was in 1840 appointed Agent to the Earl of Devon's estates, to which post Mr. John Drew succeeded a few years later, and which he retained up to the time of his death. He took the warmest interest in the agricultural welfare of his county, and filled several important offices in connection with societies for its promotion. In 1875 he acted as City Sheriff of Exeter, and, in addition to holding the agencies of many large estates in Devon, Cornwall, and Somerset, he with his brother, Mr. Henry Drew, filled for nearly 30 years the important office of Agent for the

Ecclesiastical Commissioners of England and Wales for the counties of Devon and Cornwall. He was known throughout many counties for his sound judgment and impartiality, and his opinion on all matters relating to land and to questions arising between landlord and tenant was considered so valuable that he was frequently called in as arbitrator. He became a Fellow of the Institution in 1872, and was the first Chairman of the Devon and Cornwall Provincial Committee.

THOMAS DUNCAN (Fellow), a Member of the firm of WALKER & DUNCAN, Engineers and Land Surveyors of Aberdeen, was only elected to the Fellowship of The Surveyors' Institution about a month before his death, which took place at the age of 36, after an illness of some duration, in March 1892. He was also a Member of the Institution of Civil Engineers, and had an extensive practice in engineering, particularly in agricultural work, over a great part of the North of Scotland, and was largely engaged in the Hebrides in connection with the Crofter Commission.

GEORGE EVES (Fellow) was a Member of the Institution from 1873 until his death, which occurred at Uxbridge, in January 1892, from an attack of pneumonia. Upon the formation of the Uxbridge Local Board, about 1854, he was appointed Surveyor. He took a prominent part in all local public business, and managed several important properties.

RICHARD GILLART (Fellow), whose death took place on Monday, January 4th, at Machynlleth, where he was Resident Agent to the Dowager Marchioness of LONDONDERRY, of Plas Machynlleth, was elected to the

Fellowship of the Institution in 1880, and a few months before his death was chosen Provincial Chairman of the Salop, Hereford, Radnor, and North Wales Provincial Committee. He was about 70 years old at the time of his death, and had, for the twelve months previously, been in failing health. He was, however, able to attend to business until a chill brought about a fatal termination.

Previously to being appointed Agent at Plas Machynlleth, he had been connected with the Wynnstay Estates of the late Sir Watkin Williams Wynn, Bart., and was probably one of the best known and respected, as he was certainly one of the oldest and most experienced, land agents in North Wales. He was a director of several public companies, and a member of many agricultural societies and local bodies.

RICHARD BOXALL GRANTHAM (Associate), the eldest son of the late Mr. John Grantham, C.E., was born at Croydon in 1805, and commenced his professional career in the office of Augustus Pugin, the architect, where among his fellow pupils were several men who subsequently attained distinction. In 1823 he assisted his father under Sir (then Mr.) John Rennie in surveying the River Shannon for the purpose of reporting to Government on works for the prevention of floods, and afterwards in improving the bridges and in introducing steam navigation on that river. He later on assisted in the survey for the railway from London to Birmingham, which subsequently formed part of the Great Western line, and after his father's death was engaged by Mr. I. K. Brunel as assistant in the construction of the same line, superintending particularly the Brent Viaduct. In 1844 he started in business on his own account, and was largely employed in making surveys for railways. From 1854 to 1857 he assisted Mr. John

Clutton in the draining and disafforesting of Hainault Forest, Essex; also in the operation of marling the cleared ground of Delamere Forest, an account of which appears in the 4th Vol. of the "Transactions." His advocacy of an improved system of drainage led ultimately to the passing of the Land Drainage Act, 1861, under which he was appointed an inspector, and in 1872-73 he reported to the Inclosure Commissioners on the floods in Somersetshire; and in 1879-80 completed the important works for the reclamation of Brading Harbour, I.W. He was an original Member of The Surveyors' Institution, and was one of the two Associate Members of Council for the 10 years 1872-3 1882-3. His contributions to the "Transactions" included a useful Paper in the 1st volume on the subject of "Arterial and Agricultural District Drainage"; a Paper on "Agricultural Pipe Drainage," in Vol. IV.; and a Paper on "Private Agricultural Railways," in Vol. V. He was also a Member of the Institution of Civil Engineers, a Fellow of the Geological Society, and a frequent attendant at the meetings of the British Association, on whose Committees he did good and useful work. His natural amiability and simplicity of character, added to a kindly and engaging manner, endeared him to a wide circle of friends.

HENRY BOUVERIE WILLIAM BRAND, Viscount Hampden (Honorary Member), was the second son of the 21st Baron Dacre, and was born in 1814. He represented Lewes in Parliament from 1852 to 1866, and from the latter date until he quitted the House of Commons sat for Cambridgeshire. From 1859 to 1866 he was Parliamentary Secretary to the Treasury, and was for nine years one of the Whips of the Liberal Party. In 1872, on the resignation of Mr. Denison, he was by a unanimous vote elected Speaker of the House of Commons, which office he held for

twelve years, until his retirement in 1884, when he was elevated to the peerage as Viscount HAMPDEN. While still Speaker he was rewarded with the Grand Cross of the Bath. He was elected an Honorary Member of the Institution in 1880, and died at Pau, from congestion of the lungs, on Monday, March 14th, 1892.

JAMES EDWARD KNOLLYS (Fellow), Ex-Chairman of the Somerset and Dorset Provincial Committee, was one of the earliest Members of the Institution, having joined its ranks in September 1868. He studied his profession under Mr. NEELD, formerly Agent to the Duke of PORTLAND, and was afterwards entrusted with the management of Mr. F. BARING'S estates in Norfolk. From that post he proceeded to the agency of Lord ASHBURTON'S North Devon Estate, and afterwards to the management of the Somersetshire, Hereford, and Wiltshire properties.

He was a leading Member of the Council of the Bath and West of England Society, a Magistrate for the County of Somerset, and an Assistant Commissioner under the Board of Agriculture.

Mr. KNOLLYS, who was a man of cultivated literary powers, contributed, in 1875, a thoughtful Paper on the Landlord and Tenant Question to the "Transactions" of the Institution, which led to a three nights' discussion. He was a man of most courtly and engaging manners, and was widely known and deservedly respected throughout the West of England.

He died at his residence, Fitzhead Court, Taunton, on Sunday, April 18th, 1892.

WILLIAM KNOWLES (Fellow), of Wotton, Gloucester, was elected an Associate of the Institution in

December 1882, and in 1889 was transferred to the Fellowship. He was born at Cirencester, and learned surveying in the office of Mr. Bravender, of that town. He subsequently became a partner with Mr. C. W. Castree, at Gloucester, and, after the dissolution of that partnership, joined Mr. Bruton in 1862, in founding the present firm of Bruton, Knowles, & Co. He was a Magistrate and Alderman of the City of Gloucester, a Governor of the Gloucester United Endowed Schools, and one of the Gloucester Charity Trustees, and a director of many important commercial companies, and always took a lively interest in all the local and municipal affairs of the City of Gloucester. His death, which resulted from a chill, occurred on October 5th, 1891.

ROBERT HARTLEY LIPSCOMB (Fellow) was the youngest and last surviving son of the Rev. F. Lipscomb, Rector of Welbury-in-Cleveland, and Rural Dean of Northallerton. He was born in 1833, and was educated almost entirely by his father. In 1853 he became a pupil of Mr. Addison, of Darlington, and was afterwards with Mr. T. Gow. He was subsequently employed by Mr. T. Snowball, and started on his own account as a land agent at Clapham, in Yorkshire, in 1858, afterwards undertaking the charge of Sir C. Ross's Balnagowan and other Scotch Estates. Five years later he was appointed Agent to the Rolle Estates in South Devon, where his decision, shrewdness, thoroughness, and tact soon earned him the confidence and respect of both employer and tenants. Six years after his appointment to the management of the South Devon Estates, he also took in hand the still more extensive estates in North Devon. He was elected a Fellow of the Institution in December 1889. Mr. Lipscomb was one of the most frequent contributors to the "Professional Notes," his know-

ledge of land-agency matters being only equalled by his willingness to place it at the service of others.

He died on May 11th, 1892, at Funchal, Madeira, where he had been staying for some months in the hope of benefiting his health.

JOSEPH LOTT (Associate) was born at Whitchurch, in Hampshire, coming to London early in the forties. Having been admitted solicitor in 1857, he at once commenced practice at 44, Parliament Street, and continued there and at No. 12 and afterwards at No. 19, Great George Street, Westminster, until his death, which took place at his residence, Whitchurch Lodge, Oatlands Park, near Weybridge, on the 18th August, 1891, at the age of 70. He was a man of genial disposition, and ever ready to join in promoting any good object, and during his professional career he enjoyed a considerable private practice, and carried out important and delicate matters of business to the satisfaction of many influential clients in France as well as in England. Mr. Lott was one of the earliest Members of the Institution, having been elected an Associate in March 1869.

CHARLES RALPH MADDOX (Fellow), whose death on April 9th, 1892, resulted from an accident, was for a short time in the office of Messrs. Fox & Bousfield, afterwards joining his father, and subsequently entering into partnership with him. He became a Professional Associate of the Institution by examination in May 1886, and was transferred to the Fellowship in February 1891.

JAMES MARTIN (Fellow) was the second son of the late Mr. David Martin, of Wainfleet, and was born in 1829. At a very early age he took an active part in

helping his late father in agency work and valuing, as well as in the superintendence of farming operations on a large scale. On the death of the late Mr. Thos. Greetham, of Stainfield, about 1866, Mr. James Martin was appointed Agent on Mr. Vynor's extensive estates in Lincolnshire, and from that time began to take most of the work off the hands of his father, who eventually retired into private life. It is said that at one time he was farming for himself and other people 10,000 acres of land, besides carrying on a very large business as a land agent and valuer. At the time of his death he held agencies under the Bethlehem Hospital Trustees, Magdalene College, Earl Fortescue, Colonel Reynoldson, Mr. Short, the late N. Clayton's trustees, and others in Norfolk and Oxfordshire, besides farming 2,500 acres of land on his own account. Part of this was his own property; the rest he rented under Bethlehem Hospital and other owners. As a breeder of horses he was known throughout England. He was the owner of "Fabius," whose produce has, perhaps, won more prizes in the show-ring than any horse ever known. Mr. Martin had about 100 blood horses, and, in addition, something like 100 Shires working the different farms. His cattle were of the Lincolnshire Red breed, famed for size and constitution. He always bought the best bulls he could obtain, chiefly at Lincoln Fair. He rarely sold any of his cattle or sheep on commission, but disposed of his own stock either at Wainfleet Market or Partney Fair, when he could not sell them at home. His sheep were of the Lincolnshire Long-woolled breed, chiefly bred from Mr. Tom Casswell's celebrated Pointon Flock, and he did not sacrifice quality for size. Few men could show such a lot of stock of all kinds, and the farms were splendidly cultivated, Mr. Martin being always forward with work.

He was essentially a public man, being always anxious

to further anything to benefit his neighbours. He held many important public offices. He was Chairman of the Witham River Commissioners—one of the most important posts in the county,—and carried two or three large improvement schemes through Parliament, which are now greatly benefiting the district. He was Chairman of the Skegness and Fisby Railway. He was chiefly, if not entirely, instrumental in forming "The Lincolnshire Land Agents and Tenant-right Valuers' Association," and was its Chairman up to his death. When the Agricultural Holdings Act (1883) was passed, the rules for allowances, &c., were mostly based on the Lincolnshire rules. The society was one of Mr. MARTIN's especial hobbies, and he never allowed anything to keep him from its meetings.

When the North and South Lincolnshire Agricultural Societies were amalgamated in 1868, he, with the late Mr. WILLIAM TORR, of Aylesbury Manor, Mr. HENEAGE, M.P., and Mr. WILLIAM FRANKISH, became its leading spirit. It then became "The Lincolnshire Agricultural Society," Mr. MARTIN being its director each year when the show was held in South Lincolnshire. He was also an active member of its Finance Committee. He was a very energetic member of the Hunters' Improvement Society, was one of the stewards at the last London show, and did good work on the Council of the Shire-horse Society. He was a county alderman, and took keen interest in county work, especially roads and finance, and was a Justice of the Peace for the county. He had extraordinary powers of work, knowledge of men and a confidence in himself that nothing could shake.

Mr. MARTIN was elected a Member of the Council of The Surveyors' Institution in May 1877, in recognition of the leading position to which he had attained as a representative of the keen, hard-headed class of east country

agents, who had made the Lincolnshire custom the model of all that is liberal and progressive in modern agriculture.

His tall firmly-knit figure, shrewd eyes, and quick incisive manner at once bespoke the man of energy and decision, who knew his own mind, and was not to be diverted from his purpose by any obstacle. He concealed neither his likes nor dislikes, and was quite indifferent to the opinion of others, if satisfied in his own mind that his course was right. He was in fact a typical Englishman, keen, practical, and self-reliant, and few men will be more missed in the wide district in which his life was passed.

His death was caused by a fall from his horse on the 21st August, 1891, in the 62nd year of his age.

JOHN CAMDEN MORTIMER (Fellow) entered the office of Messrs. Hunt & Stephenson, of 4, Parliament Street, in the year 1861, and subsequently joined a fellow pupil in business as a Building Surveyor. He was elected a Fellow of the Institution in February 1881, and died at Dublin on the 23rd November, 1891.

HENRY WILLIAM NEVILE (Fellow) was born at Tilton-on-the-Hill, Leicestershire, in the year 1846, at which time his father, the late Rev. Gerard Nevile, was rector of the parish. After being for some years in the offices of Mr. J. P. Seddon and Mr. L. H. Spooner he acted as Agent for the Nevile family estates in Nottinghamshire and Northamptonshire, and in 1876 was appointed Surveyor to the Lincolnshire Estates of Sutton's Charity in Charterhouse. He was subsequently appointed to various agencies in the Midland Counties. In the year 1882 he became a Member of the Provisional Committee for carrying out the Manchester Ship Canal scheme, and was connected with many of the most prominent local and municipal movements.

Mr. NEVILE was elected an Associate of the Institution in 1875, and a Fellow in 1882. He died at Buxton on May 12th, 1891.

WILLIAM NORMAN (Fellow), head of the firm of Messrs. NORMAN, BROWN, & NORMAN, Land Agents, of 34, Great George Street, Westminster, was connected with the management of the Earl of RADNOR'S estates at Folkestone and in Wiltshire for over 40 years, besides holding several other important appointments. In 1889-90 Mr. NORMAN was made an Assistant Commissioner under the Extraordinary Tithe Redemption Act of 1886. Mr. NORMAN was elected a Member of the Institution in March 1869, and died suddenly at Folkestone in February last in the 64th year of his age.

WILLIAM RABY (Fellow) was born at Manchester in the year 1815, and was throughout his life intimately associated with the development and extension of his native place, so that in his lifetime it may be said that he had witnessed the growth of Manchester from an ordinary town to one of the largest and most important cities of the world. He was articled to Mr. RICHARD LANE, architect and surveyor, of Manchester, but determined to devote himself entirely to land surveying, believing that the era of railway development which was just dawning would afford him a greater scope for his energies. He was first engaged at King's Lynn on the survey connected with the reclamation of land on the Wash. Returning to Manchester, he was associated with many eminent engineers in the promotion of some of the trunk lines of railway in the country.

Mr. RABY commenced business on his own account about the year 1850, being entrusted with, among other things, the laying out of Victoria Park, Rusholme Hill, in the

suburbs of Manchester. In 1854 he joined Mr. Edward Corbett, with whom he remained in partnership for 20 years. During this period he acted as Surveyor to the Lloyd Estate, and was actively engaged in the laying out of a very large portion of Moss Side and Chorlton-cum-Hardy, now one of the most popular districts. He also acted as Surveyor to the Newton Heath Local Board in its earlier days. He held up to the time of his death the office of Valuer to the Overseers of Manchester and Chorlton-upon-Medlock, as well as to the Overseers of Hulme and Ardwick.

Dissolving partnership with Mr. Corbett in 1874– the sons of the respective partners having been members of the firm for some time previously—Mr. Raby, with his son, Mr. Joseph Walker Raby, continued in business under the style of Wm. Raby & Son, carrying on a large business as a valuer in rating cases for many important Unions, and latterly for Railway Companies and other public bodies.

In the earlier Bills promoted by the Manchester Ship Canal Company Mr. Raby was retained as valuer, and gave evidence for the Canal Company before the Parliamentary Committees. Mr. Raby's last appearance at a public enquiry was about six months ago, when he was the principal witness for the Manchester Corporation in their action for acquiring properties under the powers of the Housing of the Working Classes Act.

His death took place very suddenly on Saturday, May 28th, in the 77th year of his age. Mr. Raby took a very active part in religious and philanthropic work, and his death is regretted by a wide circle of friends.

HARRY WILSON PERRERS (Professional Associate) was elected a Member of the Institution in 1884. He acquired his professional training in the office of Mr.

O. C. Hansard, to whom he was for many years assistant and manager. He died in July 1891, after a long illness.

ALFRED PORTER (Fellow), who died at Sydenham on January 14th, 1892, at the age of 55 years, received his professional education in the office of his father, who was District Surveyor for Lambeth and Battersea, whom he joined in partnership, and whom he succeeded on his decease in 1856. He was Architect and Surveyor to the Worshipful Company of Watermen and Lightermen, was a Fellow of the Royal Institute of British Architects, and was elected a Fellow of The Surveyors' Institution in January 1882.

BENJAMIN AUSTEN REEVES (Fellow), who died suddenly, at the early age of 38, on 28th June, 1891, was elected a Member of the Institution in January 1884. He was engaged in business as a land-agent and surveyor in Chancery Lane.

JOHN LAMBE RIGDEN (Fellow) was elected a Member of the Institution in January 1888. He was educated at King's College, where he was Exhibitioner (Applied Science Department) in 1875. He was articled to Mr. W. Ridley, M.I.C.E., and was appointed to the engineering staff of the Natal Government Railways, 1878-1886, and special Government Surveyor for Transfer Surveys in 1881. He was an Associate M.Inst.C.E., a Fellow of the Royal Geographical Society, a Fellow of the Royal Colonial Institute, and a sworn Government Surveyor of the Colony of Natal, where he died on November 10th, 1891.

THOMAS STATTER (Fellow) died at his residence Stand Hall, Whitefield, Manchester, on the morning of Christ-

mas-day 1891, after an illness of some two years' duration. He was born at Knowsley in 1816, his father being Agent to the Earl of Derby. He was appointed fifty years ago to the management of the Stanley Estates in Bury, and those in Manchester, Salford, Pilkington, Cheetham, and Colne, with the collieries attached to the property, and was actively engaged in the laying out of Lord Derby's Estate at Bootle. Mr. Statter was a Member of the Institution of Civil Engineers, and one of the original Members of The Surveyors' Institution. He was largely employed in connection with private Bill legislation before Committees of both Houses of Parliament, and was for many years Chairman of the Southport Waterworks Company, and for 35 years Chairman of the Radcliffe and Pilkington Gas Company, the success of both of which undertakings he was greatly instrumental in securing.

WILLIAM TURNER (Fellow) received his education at a private school at Colchester, and served his articles as a pupil in the office of Messrs. Isaacson & Tattersall, of Clare. In 1852 he entered into partnership with Mr. Garrod, of Ipswich, whose daughter he married in 1855.

Mr. Turner was elected a Member of the Institution in 1869, and was 62 years of age at the date of his death on the 12th September, 1891.

MICHAEL WALTON (Fellow) was the second son of the late Mr. Joseph Walton, of Emly Whitfield, Northumberland, and was born in May 1847. In the year 1871 he commenced business in London, and, at the time of his death, he was senior member of the firm of Walton & Lee. He was elected to the Fellowship of the Institution in March 1891, and died on the 24th of January, 1892.

FRANCIS WILLMOT (Fellow), who died at Moseley,

near Birmingham, on the 22nd July, 1891, was the son of the late Mr. George Willmot, County Surveyor of Warwickshire. He served his articles with Mr. William Fowler, of Birmingham, and in 1872 was joined in partnership by Mr. Charles Couchman. Mr. Willmot assisted his father as County Surveyor, and, on his death, succeeded to the office. On the passing of the Ecclesiastical Dilapidations Act, in 1871, he was appointed Surveyor, under the Act, for a portion of the Diocese of Worcester. He acted as Agent to the local estates of Earl Howe, the Earl of Bradford, Lord Norton, and other large landowners, and also did a large amount of work in connection with the Cannock Chase Enclosures, and with many of the most important railway companies. He suffered for some years from a painful internal malady, which, in spite o an operation some two years ago, ultimately caused his death.

SIDNEY WOOLF, Q.C. (Associate), was born in London in 1844, and began his professional life as a solicitor, but in 1873 was called to the Bar, and in 1890 took silk. He was the author of several legal works on Adulteration, the Law of Compensation, and other subjects, but practised chiefly in the Bankruptcy Court. He was formerly a member of the Bar Committee, and took an active interest in the Anglo Jewish Association, and the Westminster Jews' Free School. In spite of feeble health from which he had suffered for some years, his untiring energy and determination kept him actively at work in the Courts, until very shortly before his death, which took place on March 12th, 1892.

Mr. Woolf rendered the Institution valuable service in connection with the law subjects of its Professional Examinations, in which he took a warm interest.

LIBRARY.

DONATIONS OF BOOKS, MAPS, &c.

June 1*st*, 1891, *to June* 1*st*, 1892.

Donors.	Title of Work.
Acland, Sir T. D., Bart.	"Introduction to the Chemistry of Farming." Sir T. D. Acland.
Agricultural Gazette, Editor of the	"The Agricultural Gazette," 1891-92.
Architect, Editor of the	"The Architect," 1891-92.
Association of Lands Valuation Assessors for Scotland	"Proceedings," 1892.
Bath and West of England Society	"Journal," 1891-92.
Binnie, T.	"Report of Commission on the Housing of the Poor." Presbytery of Glasgow.
British Architect, Editor of the	"The British Architect," 1891-92.
Builder, Editor of the	"The Builder," 1891-92.
Building News, Editor of the	"The Building News," 1891-92.
Clarke, A. D.	"Farm Buildings." A. D. Clarke.
Contract Journal, Editor of the	"The Contract Journal," 1891-92.
Curtis, C. E.	"Valuation of Property." C. E. Curtis. "Disease in Forest Trees." C. E. Curtis.
Dinwiddy, T.	"Records of Walmer." Elvins.
Dubois, L.	"Etude sur le Surveyors' Institution de Londres." L. Dubois.
Estates Gazette, Editor of the	"The Estates Gazette," 1891-92.
Emmanuel, B.	"The Artizan," 1859 to 1866. "Civil Engineers and Architects' Journal," 1862-63.
Farmers' Club	"Journal," 1891-92.
Field, Editor of the	"The Field," 1891-92.
Fox, E., Jun.	"London Past and Present." Weatley and Cunningham.
Gamble, S. G.	Blomefield's "Cambridge."
Greenwell, G. C.	"Mine Engineering." G. C. Greenwell.
Horticulture, Journal of, Editor of the	"The Journal of Horticulture," 1891-92.

Donors.	Title of Work.
Hudson, A. B.	"Ten Years' Growth of the City of London," 1881-91. J. Salmon.
Jones, H. P.	Oke's "Game Laws" (3rd edition). J. W. W. Bund.
	"Hints to Gentlemen of Landed Property." N. Kent.
	"The Plantation Scheme, or the West of Ireland as a Field for Investment." J. Caird.
	Treatise on the "Land Tenure of Ireland and Influences which retard Irish Progress." G. A. Dean. 1869.
	"Report of the Debate in Parliament on the Elementary Education Bill, 1870."
Jones, J. M.	Humber's "Water Supply of Cities and Towns."
Institution of Civil Engineers	"Proceedings," 1891-92.
	"Engineering Education in the British Dominions."
Institution of Civil and Mechanical Engineers	"Transactions," 1891-92.
Institution of Civil Engineers of Ireland	"Transactions," 1891-92.
Institution of Mechanical Engineers	"Proceedings," 1891-92.
Iron, Editor of	"Iron," 1891-92.
Land and Water, Editor of	"Land and Water," 1891-92.
Land Agent's Record, Editor of the	"The Land Agent's Record," 1891-92.
Lockwood & Co.	"Builder's Price Book," 1892.
Lynam, C.	"Church Bells of the County of Stafford." C. Lynam.
Middleton, G. A. T.	"Handbook on House Drainage." G. A. T. Middleton.
Metropolitan, Editor of the	"The Metropolitan," 1891-92.
Minister of Public Works of Rome	"Journal of the Civil Engineers of Rome," 1891-92.
Murray, G.	"The Best Means of Improving the Financial Position of Agriculture," "Harvesting of Corn in Wet Weather," "Agricultural Education," "Notes on Dairy Farming," and "The Shire Horse." G. Murray.
North of England Institute of Mining and Mechanical Engineers	"Transactions," 1891-92.
Robinson, H.	"Sewage Disposal with reference to River Pollution and Water Supply." H. Robinson.
Royal Agricultural Society	"Journal," 1891-92.
	"Elements of Agriculture." W. Fream.

Donors.	Title of Work.
Royal Engineers' Institute .	"Professional Papers." Vols. 16 and 17.
Royal Institute of British Architects . . .	"Journal of Proceedings," 1891-92. "Transactions." Vol. 7 (New Series).
Royal Statistical Society .	"Journal," 1891-92.
Sanitary Institute . .	"Transactions," 1891-92.
Secretary, Department of Lands, Sydney .	New South Wales. Crown Lands Acts. Do. Catalogues, Maps, and Plans. Surveyor-General's Department. Do. Reports 8, 9, and 10, Department of Lands. Do Regulation of Licensed Surveyors.
Secretary of State for India	"Account of the Great Trigonometrical Survey of India." Vol. 14.
Société des Géomètres of France	"Journal, 1891-92.
Society of Architects . .	"Proceedings," 1891-92.
Society of Engineers . .	"Transactions," 1891-92.
Spon, E. and F. N. . .	"Architects and Builders' Price Book," 1892.
Surveyor, Editor of *The* .	"The Surveyor," 1892.
Stevenson, E. A., and Burstal, E. K. . . .	"Metropolitan Water Supply: Considerations affecting the Adequacy and Control of the Water Supply to the Metropolis." T. A. Stevenson, and E. K. Burstal.
Swain, E. . . .	"Quarterly Journal of the Geological Society." Nos. 156 to 188 (inclusive). "Memoirs of the Geological Survey of England and Wales" W. Topley. "Records of Excursions made by the Geologists' Association." T. V. Holmes and C. D. Sherborn.
Tudor, E. C. B. . .	"The Gael and Cymbri, or Inquiry into the Origin and History of the Irish, Scoti, Britons, and Gauls, &c." Sir W. Betham.
Welch, F. W. . . .	Ford's "History of Enfield." Lee's "St. Giles', Edinburgh."
Whitaker, W. . . .	"Preliminary Report on the Possibility of Obtaining a Supply of Water for London within the Thames Basin." W. Whitaker and A. H. Green. "Report on Pure Spring Water Supply for London." C. Monckton. "Richmond Main Sewerage"; an Account of the Works carried out by the Richmond Main Sewerage Board.
Whymper, E. . . .	"How to use the Aneroid Barometer." E. Whymper.
Wigram, J. . . .	Cary's "English Atlas," 1787.

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Brydon, R.	2	2	0
Burd, H.	2	2	0
Burnet, F.	2	2	0
Cadell, G.	2	2	0
Campbell, H. H.	2	2	0
Carr, T. E.	2	2	0
Castell, C. S.	2	2	0
Chalcraft, H. T.	2	2	0
Chapman, H. J.	2	2	0
Chasemore, P.	2	2	0
Child, E. H.	2	2	0
Chowen, H. L.	2	2	0
Clare, W. H. L.	2	2	0
Clarke, J. M.	2	2	0
Clarke, J. W.	2	2	0
Clarkson, W.	2	2	0
Cocks, R.	2	2	0
Coles, S. H. C.	2	2	0
Collier, R. J.	2	2	0
Coltman, W. J.	3	3	0
Commin, F. J.	2	2	0
Conder, A.	2	2	0
Connop, N.	2	2	0
Cooke, H.	2	2	0
Copland, W. R.	2	2	0
Cransfield, W. B.	2	2	0
Crockett, E. A. B.	2	2	0
Cruwys, R.	5	5	0
Curry, P.	3	3	0
Darch, J.	2	2	0
Davey, H. T.	2	2	0
Davies, J.	2	2	0
Davis, F. W.	2	2	0
Dawson, E. H.	2	2	0
Deane, E.	2	2	0
Dearle, W. H.	2	2	0
Debenham, H. B.	2	2	0
Dendy, W. C.	2	2	0
Dollar, P.	2	2	0
Downing, H. P. B.	2	2	0
Dransfield, H. B.	2	2	0
Dreweatt, T.	2	2	0
Dudley, E.	2	2	0
Duke, F. G. R.	2	2	0
Duncan, J. M.	2	2	0
Duvall, J. W.	2	2	0
Dyball, H.	2	2	0
Dyball, S.	2	2	0
Eames, E.	2	2	0
Earnshaw, J.	2	2	0
Easton, J. H.	2	2	0
Eayrs, J. T.	2	2	0
Edmeston, J.	2	2	0
Ellis, F.	2	2	0
Ellis, F., Jun.	2	2	0
Evans, H.	2	2	0
Evans, W. P.	5	5	0
Everill, F.	2	2	0
Eves, W. L.	2	2	0
Finn, A.	2	2	0
Finn, A. G.	2	2	0
Finn, G. W.	2	2	0
Finn, H. A.	2	2	0
Foley, H.	2	2	0

	£	s.	d.
Ford, L. R.	2	2	0
Formby, G. O.	2	2	0
Forrest, W.	2	2	0
Foster, H. E.	2	2	0
Fowler, G.	3	3	0
Fox, C. J.	2	2	0
France, C.	2	2	0
Frost, F. C.	2	2	0
Gandy, J.	3	3	0
Gayton, C.	3	3	0
Giddy, O. H.	2	2	0
Given, M.	2	2	0
Gordon, C. G.	2	2	0
Gott, C H.	2	2	0
Gott, F.	2	2	0
Gouldsmith, G. W.	2	2	0
Gover, A. S.	2	2	0
Gradwel , A. R	2	2	0
Green, E. H.	2	2	0
Green, R. C.	2	2	0
Green, T Thornton	2	2	0
Grogan, H.	2	2	0
Grogan, H. T.	3	3	0
Gruning, E. A.	5	5	0
Hampton, G. F. W.	2	2	0
Hargraves, S.	2	2	0
Harland, M. J.	2	2	0
Harpur, W.	2	2	0
Haslam, D., Jun.	2	2	0
Hawker, H. E	2	2	0
Hawley, H. M	2	2	0
Hayward, F. G.	2	2	0
Hayton, P.	2	2	0
Head, J. G	2	2	0
Heath, H.	2	2	0
Heckman, J.	2	2	0
Hickson, S. W.	2	2	0
Hill, F. N.	2	2	0
Hinds, H.	2	10	0
Hobbs, J.	2	2	0
Hobson, H.	2	2	0
Hodgkinson, J H.	2	2	0
Hoggarth, E.	2	2	0
Holloway, H. H.	2	2	0
Holloway, T.	2	2	0
Holmes, M.	2	2	0
Homan, F. G.	2	2	0
Homan, H. T.	2	2	0
Hooper, C. H.	2	2	0
Houghton, F.	2	2	0
Houghton, J. P.	2	2	0
Howard, A.	2	2	0
Humphreys, J. H.	2	2	0
Hunt, F. C.	2	2	0
Hunt, F. W. H.	5	5	0
Jenkins, O.	2	2	0
Jones, F. W.	2	2	0
Jones, W E.	2	2	0
Kay, W. R.	2	2	0
Kaye, E P.	2	2	0
Kemp-Smith, J. F.	2	2	0
Kerl, W. J.	2	2	0
Kidwell, J.	2	2	0
Laing, J.	2	2	0
Lambert, G. C.	2	2	0
Lammie, G.	2	2	0
Lane, E. L.	2	2	0
Lang, C. A.	2	2	0
Langridge, W.	2	2	0
Larmouth, G. H.	2	2	0
Lawrance, W.	2	2	0
Lee, P. C.	2	2	0
Lee, S. W.	2	2	0
Letts, J. H.	2	2	0
Leverton, F. J. W.	2	2	0
Linaker, C. E.	2	2	0
Lockyer, G. E.	2	2	0
Lofthouse, R.	2	2	0
Longsdon, E. M.	2	2	0
Ludlow, W. R.	2	2	0
Lumley, J. A.	2	2	0
McDougall, R.	2	2	0
McIver, C.	2	2	0
Marson, T.	2	2	0
Martin, H. G.	2	2	0
Marvin, A. E	2	2	0
Mason, C. W. H.	2	2	0
Meade, T. D.	2	2	0
Meller, W. G.	2	2	0
Merry, A. W.	2	2	0
Merry, T	2	2	0
Mitchell-Withers, J. B.	2	2	0
Monckton, H. P.	2	2	0
Moody, J.	2	2	0
Mould, G.	2	2	0
Moulton, J. F., Q.C.	3	3	0
Muller, J. J.	2	2	0
Mundy, H.	2	2	0
Munro, D.	2	2	0
Napier, H B.	2	2	0
Nevitt, G.	2	2	0
New, E. V.	2	2	0
Newman, G.	2	2	0
Nicholson, T. C.	2	2	0
Nock, B. B.	3	3	0
Norman, W. H.	2	2	0
Nuttall, T.	2	2	0
Oakley, C. P.	2	2	0
Oakley, J. H.	2	2	0
Osenton, G , Jun.	2	2	0
Pain, W.	3	3	0
Palamountain, J. W.	2	2	0
Parker, S.	2	2	0
Parkin, W.	2	2	0

	£	s.	d.
Parnacott, A.	2	2	0
Parnie, J.	2	2	0
Parr, S. G.	2	2	0
Parris, C. J.	2	2	0
Parry, A. W.	2	2	0
Parsons, F. C.	2	2	0
Peard, J. G.	2	2	0
Perriam, A. J.	2	2	0
Phillips, W. S.	2	2	0
Piercy, H. O.	2	2	0
Pinney, J. G.	2	2	0
Popple, J.	2	2	0
Porter, J. M.	2	2	0
Poston, H.	2	2	0
Potter, H. G.	2	2	0
Powell, F. A.	2	2	0
Prall, H. E.	2	2	0
Priday, L. H.	2	2	0
Pridmore, A. S	2	2	0
Puckridge, P. M.	2	2	0
Ransom, T. R.	2	2	0
Rea, J. M. B.	2	2	0
Rebbeck, E. W.	2	2	0
Rees, W. J.	2	2	0
Richards, T.	2	2	0
Riddett, W. H.	2	2	0
Robinson, E. A.	2	2	0
Rooney, S.	2	2	0
Rowley, W. T.	2	2	0
Rumball, A.	2	2	0
Russell, M. L	2	2	0
Rutherford, J. A.	2	2	0
Rutley, F.	2	2	0
Salter, W. H.	2	2	0
Sample, C. H.	2	2	0
Sampson, G.	2	2	0
Sampson, W.	2	2	0
Scriven, R. G.	2	2	0
Scroggs, W.	2	2	0
Sedgwick, A. W.	2	2	0
Selby-Bigge, C. P. O.	2	2	0
Shelmerdine, H.	2	2	0
Shilcock, J.	2	2	0
Simmons, C.	2	2	0
Skitt, A	2	2	0
Slater, C. F.	2	2	0
Smith, F. W.	2	2	0
Smith, G.	3	3	0
Smith, J. M.	2	2	0
Smith, P. P. C.	2	2	0
Snelling, H.	2	2	0
Soutter, E.	2	2	0
Spelman, C. C. R.	2	2	0
Squarey, N. P.	2	2	0
Stanham, E. G.	2	2	0
Start, J. W.	2	2	0
Stopher, T.	2	2	0
Sturton, J.	2	2	0
Surridge, J. S.	2	2	0
Synge, E. M.	2	2	0
Tabberer, B.	2	2	0
Taylor, A. W.	2	2	0
Thomas, G	2	2	0
Tilley, H. D.	2	2	0
Todd, R.	2	2	0
Trepplin, C. E.	2	2	0
Vale, H.	2	2	0
Verity, G. E.	2	2	0
Wadling, H. J.	3	3	0
Wainwright, T. T.	2	2	0
Walker, G. B.	2	2	0
Walker, J.	2	2	0
Walmisley J. W.	2	2	0
Wanklyn, P. E	2	2	0
Ward, R	2	2	0
Waring, H. T.	2	2	0
Waterman, A. J.	2	2	0
Webb, F. N.	2	2	0
Webb, W.	2	2	0
Wells, E.	2	2	0
Wetherall, H. L.	2	2	0
White, J.	2	2	0
White, W. H.	2	2	0
Wigley, G. D. E.	2	2	0
Wilbraham, E. S.	2	2	0
Wilde, W.	2	2	0
Wilkin, H. M.	2	2	0
Wilkinson, G. H.	2	2	0
Wilks, E. S.	2	2	0
Williams, E.	2	2	0
Wilson, J. C.	2	2	0
Wilson, W. H.	2	2	0
Windley, H. C.	2	2	0
Withall, L. A.	2	2	0
Wood, W.	2	2	0
Woodforde, L. B.	2	2	0
Woodman, T. F.	2	2	0
Woolley, J. T.	2	2	0
Wordsworth, R. W.	3	3	0
Wright, J.	2	2	0
Young, D.	2	2	0

THE SURVEYORS' INSTITUTION

(INCORPORATED BY ROYAL CHARTER),

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

LIST OF MEMBERS, JULY 1st, 1892.

Honorary Members.

Date of Election and of Transfer.		
1889, Dec. 9	CHAPLIN, THE RIGHT HON. HENRY, M.P.	Board of Agriculture, St. James's Square, S.W.
1887, Jan. 24	COBHAM, THE RIGHT HON. LORD VISCOUNT	Hagley Hall, Stourbridge.
1877, Jan. 15	CONSTABLE, JOHN, The Rev.	Marston Bigot, Frome, Somersetshire.
1886, Jan. 11	CULLEY, GEORGE, C.B.	Office of Woods, Forests, and Land Revenues, 1, Whitehall Place, S.W.
1883, May 21	DEVONSHIRE, HIS GRACE THE DUKE OF	Devonshire House, Piccadilly, W.
1871, Jan. 30	GORE, CHARLES ALEXANDER, The Honorable	West Side, Wimbledon Common, S.W.
A. '81, Mar. 21 H.M. '86, Mar. 8	GRANTHAM, SIR WILLIAM	82, St. George's Square, S.W.
1889, Mar. 4	JERSEY, THE RIGHT HON. THE EARL OF	3, Great Stanhope Street, W.
1886, Jan. 11	KINGSCOTE, COLONEL SIR ROBERT NIGEL FITZHARDINGE, K.C.B.	Office of Woods, Forests, and Land Revenues, 1, Whitehall Place, S.W.
A. '69, Jul. 26 H.M. '71, Feb. 27	LEACH, LIEUT.-COL. SIR GEORGE ARCHIBALD, K.C.B.	6, Wetherby Gardens, South Kensington, S.W.
1885, Apr. 20	M'CLELLAN, JOHN B., M.A., The Rev.	Royal Agricultural College, Cirencester.

Total number of Honorary Members, 11.

Fellows.

Date of Election and of Transfer. — The names of those Fellows who have qualified for the Class by Examination are distinguished thus *

Number.			
559	1889, Jan. 28	ABBEY, JOE BURMAN	28, John William Street, Huddersfield.
149	1891, Nov. 4	ABBOTT, JOHN OCTAVIUS	31, Charing Cross, S.W.
084	1884, Jan. 14	ABBOTT, ROBERT THOMAS G.	Whitley House, Malton, Yorkshire.
499	1888, Nov. 26	ABBOTT, WILLIAM	Holbeach, Lincoln.
1	1868, Jun. 15	ADAMS, CHARLES FREDERICK	Barkway, Herts, and 57, Coleman Street, E.C.
105	1884, Feb. 25	ADAMS, HENRY	60, Queen Victoria Street, E.C.

Dip No.	*Date of Election and of Transfer.*	FELLOWS.	
1504	1888, Dec. 10	ADDIE, PETER	30, Winckley Square, Preston.
612	1881, Feb. 21	ADDIE, WILLIAM FORRESTER .	Powis Castle Estate Office, Welchpool, Montgomeryshire.
1439	A. '88, Jan. 9 F. '91, Jan. 5	*ADKIN, BENAIAH WHITLEY . .	14, Queen Street, Cheapside, E.C.
664	A. '81, Dec. 19 F. '86, Dec. 8	ADKIN, CHARLES DUNCAN . .	Wantage, and Abingdon, Berks.
1479	1888, Apr. 30	ALLEN, GEORGE	Estate Offices, Stalbridge, Dorset.
982	1883, Dec. 17	ALLEN, HENRY ROBERT . . .	319, Victoria Park Road, South Hackney, E., and 50, Finsbury Square, E.C.
1912	1891, Jan. 17	ALLPORT, WILLIAM	36, Southampton Street, Strand, W.C.
597	A. '81, Jan. 10 F. '84, Mar. 10	ANDERSON, ROBERT, JUN. . .	The Barton, Cirencester.
1635	1889, Dec. 9	ANDREW, THOMAS HAWKES . .	Williton, Somerset.
1792	1890, May 29	ANDREWS, JOHN	13, Basinghall Street, E.C.
2150	1891, Nov. 4	ANSELL, WALTER RAYMOND .	15, Coleman Street, E.C.
287	1872, Dec. 9	APPERLEY, WILLIAM HAVARD .	Hereford.
198	1869, May 3	ARDING, CHARLES BENNETT. .	22, Surrey Street, Strand, W.C.
1133	1884, Apr. 21	ARMISTEAD, RICHARD . . .	118, Main Street, Bingley, Yorkshire.
791	1882, Apr. 24	ARMSTRONG, THOMAS JOHN . .	14, Hawthorn Terrace, Newcastle-on-Tyne.
1730	1890 Feb. 24	ARMYTAGE, GEORGE JOHN . .	Kirklees Park, Brighouse, Yorkshire.
1505	1888, Dec. 10	ARNOLD, FRANCIS	Hambledon, Hants.
1709	1890, Feb. 10	ARNOLD, WILLIAM	23, George Street, Tamworth, and Grenville Buildings, 12, Chery Street, Birmingham.
1541	1889, Jan. 14	ASHDOWN, AUGUSTUS HARDING .	Uppington, Wellington, Salop.
1624	1889, May 13	ATKINS, SYDNEY GEORGE . .	The Hall, Coston, Wymondham. Norfolk.
2151	1891, Nov. 4	AULT, EDWIN	Great George Street Chambers, Westminster, S.W.
2152	1891, Nov. 4	AUSTEN, FRANK	Marling Place, Wadhurst, Sussex.
1793	1890, May 29	AUSTIN, RICHARD	Bishop's Waltham, Hants.
1408	A. '87, Dec. 19 F. '91, Oct. 15	*AUSTIN, RICHARD, JUN. . .	Bishop's Waltham, Hants.
404	1875, Nov. 8	AUSTIN, RUSSELL GARDENER .	Hertford.
1913	1891, Jan. 17	AYNSLEY, ROBERT JOHN. . .	Gosforth, Newcastle-on-Tyne, Northumberland
798	A. '82, Apr. 24 F. '90, Apr. 14	AYRES, CHARLES PRYOR. . .	52, High Street, Watford, Herts.
1914	1891, Jan. 17	BACON, FRANK MACE . . .	Attleborough, Norfolk.
1915	1891, Jan. 17	BACON, HORACE	Attleborough, Norfolk
140	A. '68, Nov. 2 F. '87, Feb. 7	BADCOCK, PHILIP	9, Whitehall Place, S.W.
1767	1890, Mar. 24	BAILEY, HARRY DAVID CHINERY	Estate Office, Eden Street, Kingston on-Thames and Claygate, near Esher.
665	A. '81, Dec. 19 F. '89, Nov. 11	BAILEY, LEONARD	Estate Office, Scorton, Garstang, Lancashire.
1833	1890, Nov. 22	BAILEY, STEPHEN	Nynehead, Wellington, Somerset.
2057	1891, May 23	BAILEY, WILLIAM SMITH . .	4, Kirkgate, Newark-upon-Trent.
1506	1888, Dec. 10	BAINBRIDGE, ROBERT STAGG .	Keverstone, near Staindrop, Durham.
2153	1891, Nov. 4	BAINES, MATTHEW TALBOT . .	The Hall, Bawtry, Notts.
1005	A. '83, Dec. 17 F. '84, Dec. 8	BAIRD, JONATHAN PEEL . . .	Estate Office, Somerley, Ringwood, Hants.

ip.	Date of Election and of Transfer.	FELLOWS.	
54	1891, Nov. 4	BAKER, JOHN	High Street, Slough.
90	A. '90, Jan. 6 / F. '91, Dec. 7	*BALL, WILLIAM ALFRED . .	Lynton, Brockley Road, Forest Hill, S.E.
55	1891, Nov. 4	BALLANTINE, EDWIN	101, Leadenhall Street, E.C.
12	1882, May 22	BALLARD, EDMUND	Elwick House, Ashford, Kent.
79	1877, Mar. 12	BALLS, JAMES MAYHEW . . .	Castle Hedingham, Essex.
60	1889, Jan. 28	BANCROFT, HENRY	Kay's Chambers, 26, Cooper Street, Manchester.
56	1891, Nov. 4	BANKS, JOHN	Kendal, Westmoreland.
16	1891, Jan. 17	BANKS, THOMAS	60, King Street, Manchester.
06	1881, Feb. 7	BANNISTER, THOMAS. . . .	Limehurst, Hayward's Heath, Sussex.
12	1882, Jan. 30	BARFIELD, FREDERIC HENRY .	56, Lancaster Road, Stroud Green, N.
50	1885, Mar. 9	BARKER, CALEB	Estate Office, Shadwell, Thetford.
65	1891, Mar. 14	BARKER, HORACE RICHARD . .	25, Motcomb Street, Belgrave Square, S.W.
31	A. '89, Dec. 9 / F. '91, June 29	*BARNES, GEORGE FREDERICK .	Estate Office, Coleshill, Highworth, Wilts.
38	1883, Dec. 17	BARNES, JOHN WILLIAM JAMES	Brougham Chambers, Wheeler Gate, Nottingham.
07	1886, Feb. 22	BARNES-WILLIAMS, THOMAS .	11, Clement's Lane, E.C.
57	1891, Nov. 4	BARR, JAMES	221, West George Street, Glasgow.
58	1891, Nov. 4	BARRATT, FREDERICK WILLIAM .	The Vestry Hall, Bethnal Green, E.
59	1891, Nov. 4	BARROW, THOMAS ROBERT . .	Arnold House, Windsor Road, Southport.
18	1868, Aug. 17	BARRY, CHARLES	1, Victoria Street, S.W.
17	1891, Jan. 17	BARRY, DENNETT HEBER . .	41, Bedford Row, W.C.
58	1891, May 23	BARTON, HARRY HOWELL . .	17, Guildhall Street, Folkestone, Kent.
56	1884, Jan. 28	BATE, THOMAS	The Red Tower, Kilburn, N.W.
30	1891, Nov. 4	BATEMAN, JOHN	Hall Garth, Clapham, Yorkshire.
36	1891, Mar. 14	BATEY, HENRY SIMPSON . .	51, King Street, Manchester.
26	1882 Feb. 13	BATH, FRED	Crown Chambers, Salisbury, Wilts.
18	1891, Jan. 17	BATHER, JOHN T.	9, The Square, Shrewsbury.
31	1891, Nov. 4	BATSTONE, ROWLAND ROBERT .	110, Cannon Street, E.C.
38	1887, Feb. 7	BATTAM, FREDERICK THOMAS .	28, Mount Street, Grosvenor Square, W.
30	1889, Feb. 25	BATTERBURY, THOMAS . . .	29, John Street, Bedford Row, W.C.
32	1891, Nov. 4	BATTING, WALTER	7, John Street, Adelphi, W.C.
31	1892, Feb. 26	BAXTER, GEORGE.	1, Frederick's Place, E.C.
38	1891, Nov. 4	BEALE, ROBERT JOHN . . .	9, Victoria Street, S.W.
82	A. '85, Dec. 7 / F. '89, Nov. 11	*BEARD, EDWIN THOMAS. . .	Wallsend, Pevensey, Sussex.
18	A. '68, Nov. 9 / F. '89, Nov. 11	BEAUCHAMP, CHARLES DAVIE .	9, Whitehall Place, S.W.
50	1888, Feb. 6	BEAUMONT, CHARLES . . .	East Bridgford, near Nottingham.
36	1868, Nov. 2	BEAUMONT, GEORGE	East Bridgford, near Nottingham.
34	1891, Nov. 4	BECK, ARTHUR CLEMENT . .	Castle Rising, King's Lynn, and Sandringham.
37	1888, Feb. 20	BECK, EDWARD WILLIAM . .	City Chambers, Norwich.
35	1891, Nov. 4	BECK, FRANK REGINALD . .	Sandringham, Norfolk.
31	1889, Jan. 28	BECKWITH, HENRY LANGTON .	14, North John Street, Liverpool.
59	A. '83, May 25 / F. '87, May 23	*BEDELLS, CHARLES HERBERT .	6, John Street, Bedford Row, W.C.
25	1879, Jan. 6	BEDELLS, CHARLES KING . .	6, John Street, Bedford Row, W.C.

FELLOWS.

Dip. No.	Date of Election and of Transfer.		
317	1873, Dec. 8	Beeston, Frederick . . .	30, Lincoln's Inn Fields, W.C.
1151	1888, Feb. 6	Beever, William Frederick Holt	Greenlands Estate Office, Henley-on-Thames.
1433	1888, Jan. 9	Beken, George	2, Circus Place, London Wall, E.C
1987	1891, Mar. 14	Beken, Walter	2, Circus Place, London Wall, E.C.
2166	1891, Nov. 4	Bell, Albert William . .	18, Bank Street, Accrington.
630	1881, Dec. 19	Bell, George Graham . .	9, Victoria Street, S.W.
1187	1884, May 26	Beningfield, Henry . . .	30, Regent Street, S.W.
1458	1888, Feb. 20	Bell, Joseph Askew . . .	Rufford Estate Office, Ollerton, Notts.
1753	1890, Mar. 10	Bennett, George	Buckingham.
388	1875, Mar. 1	Bennett, Thomas Oatley . .	Bruton, Somerset.
1212	A. '84, Nov. 10 / F. '90, Dec. 8	*Benson, Robert Alan . .	Duchy of Cornwall Office, Liskeard, Cornwall.
631	1881, Dec. 19	Berridge, Robert	30, Bishopsgate Street Without, E.C.
1214	1884, Dec. 8	Bertwistle, James	1, Tackett's Street, Blackburn.
984	1883, Dec. 17	Bettridge, Edward . . .	28, Waterloo Street, Birmingham.
1239	1885, Jan. 12	Bickerton, George Arthur .	62, King William Street, E.C.
190	1869, Mar. 22	Bidwell, Charles . . . . (*Member of Council*)	Ely, Cambridgeshire.
2137	1891, Nov. 4	Bilson, John	23, Parliament Street, Hull.
2059	1891, May 23	Bingham, Alfred John . .	Nalder Hill House, Newbury, and 5, Bolt Street, Piccadilly, W.
1919	1891, Jan. 17	Bingham, Frederick Henry .	5, Bolton Street, Piccadilly, W.
396	1875, Apr. 12	Bingham, Reuben . . .	5, Bolton Street, Piccadilly, W.
131	1868, Oct. 26	Binnie, Thomas	207, Hope Street, Glasgow.
1330	A. '86, Dec. 6 / F. '89, Nov. 11	*Birch, Walter de Hoghton .	Kerry, Newtown, Montgomeryshire.
1490	1888, Nov. 12	Bird, James Binfield . .	West Cowes, Isle of Wight, and 14, Que Victoria Street, E.C.
1636	1889, Dec. 9	Bird, John	Brampton, Huntingdon.
1154	1884, May 5	Bird, Walter	61, Edgware Road, W.
1351	A. '87, Jan. 10 / F. '89, Feb. 25	Birkett, Tom	Foxton House, Penrith, Cumberland.
1320	1886, May 17	Birkett, William	Don Villa, Cleethorpe Road, Grimsby, Linco shire.
1794	1890, May 29	Bishop, Charles	Farringdon Street, Swindon, Wilts.
1326	1886, Dec. 6	Blackford, Arthur . .	61 & 62, Chancery Lane, W.C.
1262	1885, Mar. 23	Blake, Frederick	130, Queen Street, Portsea, Hants.
2168	1891, Nov. 4	Blake, George	Stradey Estate Office, New Road, Llanelly.
883	1883, Feb. 12	Blake, William John, Jun. .	45, High Street, Croydon.
773	1882, Mar. 13	Blakemore, William Agutter	6, Duke Street, Adelphi, W.C.
1057	1884, Jan. 28	Blashill, Thomas	London County Council, Spring Gardens, S.W
2169	1891, Nov. 4	Blencowe, George	Bury St. Edmunds.
2170	1891, Nov. 4	Bletsoe, Henry Hopkinson .	Thrapstone, Oundle.
1058	1884, Jan. 28	Blewitt, Edward Robert .	Rainham, Essex.
1988	1891, Mar. 14	Blizard, John Henry . . .	Lansdowne House, Castle Lane, Southamp
511	A. '78, May 13 / F. '87, Mar. 7	Blosse, Edward F. Lynch .	Charles Street Chambers, Cardiff.

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2171	1891, Nov. 4	BLYTON, GEORGE	16, The Hawthorns, Church End, Finchley, N.
768	A. '82, Feb. 28 / F. '89, Nov. 11	BOA, ANDREW	Great Thurloe, Newmarket, Suffolk.
1452	1888, Feb. 6	BODY, JOHN BOND	Old Town Chambers, Plymouth.
330	1874, Feb. 2	BOLAM, CHARLES GODFREY	Estate Office, Boughton House, Kettering, Northamptonshire, and 82 & 83, Palace Chambers, S.W.
450	1876, May 8	BOLAM, WILLIAM THOMAS	Cross House, Westgate Road, Newcastle-upon-Tyne.
408	1875, Dec. 13	BOLDEN, JOHN LEONARD	Duchy of Lancaster Office, Lancaster Place, W.C.
2060	1891, May 23	BOND, DOUGLAS VALE	22, Surrey Street, Strand, W.C.
199	1869, May 3	BOND, ERASMUS	The Lodge, Englefield Green, near Staines.
24	1868, Jun. 15	BONNY, JAMES RIPPOTH	Palmer's Hill House, Palmer's Green, Southgate, N., and 47, Old Broad Street, E.C.
960	A. '83, May 25 / F. '86, Apl. 12	*BONTOR, FRANK ARTHUR	35 & 36, Old Bond Street, W.
813	1882, May 22	BOOKER, ALGERNON ERSKINE	Albion House, Hyde Park Square, W.
846	A. '82, Dec. 18 / F. '91, Oct. 15	BOOTH, JOHN FREDERICK	35, Church Street, St. Helen's, Lancashire.
2172	1891, Nov. 4	BOOTHBY, HENRY VERNON	Estate Office, Keele, Newcastle, Staffordshire.
632	1881, Dec. 19	BOTTERILL, WILLIAM	23, Parliament Street, Hull.
1883	A. '90, Nov. 22 / F. '91, June 29	*BOULTING, FREDERICK EDWARD	Albert Gate Mansions, S.W.
1795	1890, May 29	BOURNE, ROBERT ELLIOTT	Elwell, Totnes, Devon.
1880	1887, Mar. 21	BOVILL, ALFRED	13, Buckingham Street, Strand, W.C.
1507	1888, Dec. 10	BOWDEN, JOHN	14, Ridgefield, Manchester
2173	1891, Nov. 4	BOWDICH, JOHN	28, Moorgate Street, E.C.
1777	1890, Apr. 14	BOWDITCH, HENRY	103, George Street, Croydon.
1134	1884, Apr. 21	BOWER, WILLIAM JOHN	6, St. James Street, Derby.
1778	1890, Apr. 14	BOWLEY, JOHN CROSS	Beeston, near Nottingham.
1491	1888, Nov. 12	BOWMAN, JOHN JAMES	32, English Street, Carlisle.
1685	1890, Jan 6	BOYD, JOHN JERMYN	125, Piccadilly, W.
1476	1888, Apr. 16	BOYES, HENRY COWELL	62, Lincoln's Inn Fields, W.C.
1325	1886, Nov. 22	BRACKETT, ARTHUR WILLIAM	27, High Street, Tunbridge Wells, Kent.
1884	A. '90, Nov. 22 / F. '92, May 30	*BRACKETT, FREDERICK HENRY	27, High Street, Tunbridge Wells, Kent.
870	1883, Jan. 29	BRACKETT, WILLIAM	27, High Street, Tunbridge Wells, Kent.
2174	1891, Nov. 4	BRADFORD, WALTER	Rose Cottage, Church Road, Wimbledon.
2175	1891, Nov. 4	BRADLEY, WILLIAM EDWARD	The Hall, Ebberston, York.
1562	1889, Jan. 28	BRADY, CHARLES ALLDIS	17, Warren Street, Stockport.
1989	1891, Mar. 14	BRADY, WILLIAM HOLLINSHED	17, Warren Street, Stockport.
1397	1887, Dec. 5	BRAILSFORD, HENRY	Park Nook, near Derby.
1059	1884, Jan. 28	BRAY, HARRY	14, Warwick Court, Gray's Inn, W.C.
1441	1888, Jan. 23	BREACH, BENJAMIN I'ANSON	2, Serle Street, Lincoln's Inn Fields, W.C.
727	1882, Feb. 13	BRERETON, FRANC SADLEIR	292, High Holborn, W.C
2176	1891, Nov. 4	BRERETON, THOMAS BLOOMFIELD SADLEIR	292, High Holborn, W.C.
1920	1891, Jan. 17	BREWER, FRANK JOHN	2, Upper Hill Street, Richmond, Surrey.
1921	1891, Jan. 17	BRIANT, ROBERT	200, Kennington Park Road, S.E.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
829	1882, Dec. 18	Bridgewater, Bentley James	80, Cheapside, E.C.
1370	1887, Feb. 21	Bridgford, Ernest James	28, Cross Street, Manchester.
1309	1886 Mar. 8	Bridgford, Col. Robert, C.B.	28, Cross Street, Manchester.
953	1883, May 25	Brinsley, George	30 and 31, New Bridge Street, E.C.
2177	1891, Nov. 4	Brocklebank, John	58A, Yorkshire Street, Rochdale.
2178	1891, Nov. 4	Brodrick, Frederick Stead	Cogan Chambers, Bowl Alley Lane, Hull.
2179	1891, Nov. 4	Brooking, Edwin William	38, Parliament Street, S.W.
1990	1891, Mar. 14	Brooks, Charles William	63, Finsbury Pavement, E.C.
1834	1890, Nov. 22	Broster, Robert Buck	6 & 8, Temple Street, Keighley.
1060	1884, Jan 28	Brown, Bradshaw	59, Fenchurch Street, E.C.
322	1874, Jan. 5	Brown, Daniel Johnson	10, Hill's Place, Oxford Street, W.
1500	1888, Nov. 26	Brown, Frank John	Tring, Herts.
63	1868, Jul. 13	Brown, George	Roborough House, Barnstaple, Devonshire.
634	1881, Dec. 19	Brown, George James	34, Great George Street, S.W
933	1883, April 30	Brown, John Powles	21, East Street, Hereford.
173	1869, Feb. 22	Brown, Thomas Forster	Guildhall Chambers, Cardiff.
2061	1891, May 23	Brown, William	67, Renfield Street, Glasgow.
1313	1886, May 3	Brown, William Blumfield	5, Henrietta Street, W.C
1142	A. '84, Apr. 21 / F. '90, Apr. 14	Browne, Flint	73, Cheapside, E.C.
1046	A. '84, Jan. 14 / F. '90, Mar. 24	Bruce, Robert Knight	Mentmore Estate Office, Leighton Buzza Bucks.
2482	1892, Feb. 26	Bruton, Henry William	Albion Chambers, Gloucester.
2180	1891, Nov. 4	Bryden, Robert Alexander	212, St. Vincent Street, Glasgow.
1291	1886, Jan. 11	Brydon, Robert	The Dene, Seaham-Harbour, Durham.
246	1870, Dec. 12	Buchan, Thomas	15, Barrack Street, Dundee.
77	1863, July 13	Buck, Albert (*Member of Council*)	Worcester.
1542	1889, Jan. 14	Buck, Herbert Wilson	Pierpoint Street, Worcester.
1281	A '85, Dec. 7 / F. '89, Jan. 14	*Buckland, Alfred Virgoe	66, Cannon Street, E.C.
270	1871, Dec. 18	Buckland, Frank Bowry	Windsor.
1684	1890, Jan. 6	Buckland, Henry Duneau	23, Hart Street, Bloomsbury, W.C., and Wind
1885	1890, Nov. 22	Buckley, George	Tower Chambers, Halifax, Yorkshire
2181	1891, Nov. 4	Bull, Alfred Edwin	35, Craven Street, Charing Cross, W.C.
2182	1891, Nov. 4	Bull, Walter	35, Old Jewry, E.C.
1922	1891, Jan. 17	Burchell, Sidney Herbert	Reigate, Surrey, and Wool Exchange, E.C.
1215	1884, Dec. 8	Burd, Laurence	Mayfield, Shrewsbury.
1543	1889, Jan. 14	Burd, Timotheus Henry	School Gardens, Shrewsbury.
1796	1890, May 29	Burmester, John William Stanley	30, Lincoln's Inn Fields, W.C.
2183	1891, Nov. 4	Burnet, Frank	69, West Regent Street, Glasgow.
1797	1890, May 29	Burnett, Alfred Andrew	2, High Street, Southampton.
635	1881, Dec. 19	Burnett, David	14, Nicholas Lane, E.C.
1625	1889, May 13	Burnett, George John Mulcaster	Bylands, Redbourn, Herts.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
379	1875, Feb. 1	BURROUGHES, THOMAS HENRY.	30, Lincoln's Inn Fields, W.C, and 16, Lower Berkeley Street, W.
1332	A. '86. Dec. 6 / F. '90, Jan. 6	*BURROWS, ALFRED JOHN . .	41, Bank Street, Ashford, Kent.
1216	1884, Dec. 8	BURTENSHAW, ALBERT . . .	Hailsham, Sussex.
1411	A. '87, Dec. 19 / F. '91, May 25	*BUSHELL, HENRY	22, Great James Street, Bedford Row, W.C.
323	1874, Jan. 5	BUZZARD, ALFRED LINDSEY. .	22, Surrey Street, Strand W C.
1637	1889, Dec. 9	BYRON, AUGUSTUS WILLIAM .	Sutton Estate Offices, Duckmanton, Chesterfield.
2184	1891, Nov. 4	CABLE, JAMES M.	11, Acre Lane, Brixton, S.W.
1638	1889, Dec. 9	CÆSAR, CHARLES EDWARD . .	105, Tooley Street, Southwark, S.F.
2185	1891, Nov. 4	CALVERT, ARTHUR RICHARD .	14, Low Pavement, Nottingham.
1798	1890, May 29	CAMPBELL, HENRY HUNTER .	Sutton Hall, St. Helen's, Lancashire.
1877	1887, Mar. 7	CANNING, WILLIAM BROWNE .	Salisbury, and Elston, near Devizes.
787	A. '82, Mar. 27 / F. '84, Jan. 14	CARD, HENRY CURTIS . . .	North Street, Lewes, Sussex.
2483	1892, Feb. 26	CARDONA, JOSEPH, JUN. . . .	Waterport Street, Gibraltar.
1799	1890, May 29	CAREW, JOHN THEODORE . .	22, Surrey Street, Strand, W.C.
800	A. '82, Apr. 24 / F. '83, Jan. 15	CARPENTER, EVAN GEORGE .	45, High Street, Croydon, Surrey.
2186	1891, Nov. 4	CARRINGTON, THOMAS . . .	Kiveton Park, near Sheffield.
232	A. '70, Feb. 7 / F. '80, Nov. 22	CARRITT, ERNEST . . .	18 & 19, Great St. Helen's, E.C.
2187	1891, Nov. 4	CARSWELL, WILLIAM . . .	Capesthorne, Chelford, Cheshire.
636	1881, Dec. 19	CARTWRIGHT, SIR HENRY EDWARD	1, Courtfield Gardens, S.W.
2188	1891, Nov. 4	CARTWRIGHT, JOSHUA . . .	Bury, Lancashire.
1991	1891, Mar. 14	CASTELL, CHARLES SMITH . .	2, Pont Street, Belgrave Square, S.W.
1603	1889, Mar. 18	CASTLE, ARTHUR	11, King Edward Street, Oxford.
920	1883, April 16	CASTLE, GEORGE RICHARD . .	Bicester, Oxford.
637	1881, Dec. 19	CASTLE, HENRY JAMES . . .	37, Bedford Row, W.C.
295	1873, Jan. 13	CASTLE, ROBERT	11, King Edward Street, Oxford.
1201	A. '84, May 26 / F. '87, Nov. 14	CASTLE, SYDNEY CHARLES COURTENAY.	40, Chancery Lane, W.C., and Neustead, Auckland Road, Upper Norwood, S.E.
278	1872, Mar. 11	CASTLE, WILLIAM HENRY BALDWIN	40, Chancery Lane, W.C.
247	1870, Dec. 12	CATES, ARTHUR	7, Whitehall Yard, S.W.
362	1875, Jan. 4	CAVE, HENRY H.	The Manor House, Brigg, Lincolnshire.
1480	1888, Apr. 30	CAVE, THOMAS NEWMAN . .	Horton, Northamptonshire.
1263	1885, Mar. 23	CHADWICK, SPENCER	17, Parliament Street, S.W.
1836	1890, Nov. 22	CHALK, HENRY PHILIP . . .	Linton, Cambridgeshire.
1061	1884, Jan. 28	CHANCELLOR, ALBERT . . .	1, King Street, Richmond, Surrey.
219	1870, Jan. 10	CHANCELLOR, FREDERICK . .	20, Finsbury Circus, E.C., and Chelmsford, Essex.
2189	1891, Nov. 4	CHAPMAN, HENRY JAMES. . .	50, Belgrave Road, S.W.
1800	1890, May 29	CHARLES, RICHARD STAFFORD .	St. Martin's House, 1, Gresham Street, E.C.
1768	1890, Mar. 24	CHART, ROBERT MASTERS . .	The Vestry Hall, Mitcham, Surrey.
2190	1891, Nov. 4	CHASEMORE, PHILIP	Ashleigh, Horsham, Sussex.
1923	1891, Jan. 17	CHATTELL, DAVID JAMES . .	29A, Lincoln's Inn Fields, W.C.

FELLOWS.

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2191	1891, Nov. 4	Chatterton, George . . .	46, Queen Anne's Gate, S.W.
1274	1885, Nov. 23	Chesterton, Edward . . .	22, Lower Phillimore Place, Kensington, W.
1755	1890, Mar. 10	Chesterton, Sidney Rawlins.	22, Lower Phillimore Place, Kensington, W.
1135	1884, Apr. 21	Cheston, Chester	Dashwood House, New Broad Street, E.C.
1992	1891, Mar. 14	Cheston, Horace	5, Union Court, Old Broad Street, E.C.
2192	1891, Nov. 4	Chetwood, Stephen. . . .	Waltham Abbey, Essex.
2193	1891, Nov. 4	Chew, Henry Victor . . .	43, New Broad Street, E.C
1731	1890, Feb. 24	Child, Fred	65 & 66, Chancery Lane, W.C.
57	1868, Jul. 6	Chinnock, Frederick George	11, Waterloo Place, S.W.
1993	1891, Mar. 14	Chowen, Henry Llewellyn .	Estate Office, Dalton Holme, Hull.
1112	A. '84, Feb. 25 / F. '91, June 29	Christy, Archibald Ernest .	30, Great St. Helen's, E.C.
1347	1887, Jan. 10	Clare, Edward Lovell . .	Yorkshire Bank Chambers, Bradford, and 3 Friar Lane, Leicester.
1563	1889, Jan. 28	Clare, William Harcourt Lovell	Friar Lane, Leicester.
2484	1892, Feb. 26	Clark, John McClare . . .	Haltwhistle, Northumberland.
1639	1889, Dec. 9	Clark, Nathaniel	Beamish Park, Chester-le-Street, Co. Durham.
681	1882, Jan. 16	Clark, Samuel	8, New Cavendish Street, W.
682	1882, Jan. 16	Clarke, Alfred Dudley . .	Estate Office, Abberley, Stourport, Worcestershi
1801	1890, May 29	Clarke, Christopher . . .	Charlcot, Bedale, Yorkshire.
1994	1891, Mar. 14	Clarke, George Ernest . .	12, Coleman Street, E.C.
1074	A. '84, Jan. 2 / F. '86, Jan. 11	Clarke, Howard Chatfeild .	63, Bishopsgate Street Within, E.C.
1508	1888, Dec. 10	Clarke, John William . .	Guisbrough, Yorkshire.
1007	A. '83, Dec. 17 / F. '89, Nov. 11	Clarke, Percy Henry. . .	2, Lancaster Place, W.C.
973	1883, Nov. 12	Clarke, Richard	Surveyor's Office, Parish Offices, Birmingham.
1924	1891, Jan. 17	Clarke, Stanley	202, Bishopsgate Street Without, E.C.
27	1868, Jun. 15	Clarke, Thomas Chatfeild (*Vice-President*) .	63, Bishopsgate Street Within, E.C.
2194	1891, Nov. 4	Clarkson, John	Ormond Chambers, 28, Great Ormond Street, W
1837	1890, Nov. 22	Clarkson, William	146, High Street, Poplar, E.
1686	1890, Jan. 6	Clifton, James Edward . .	Swanage, Dorset.
1122	A. '84 Mar. 10 / F. '89 Jan. 28	Clifton, William Edward . .	7, East India Avenue, Leadenhall Street, E.C
1701	1890, Jan. 27	Clough, Richard Charles Butler	Ty Maur, Denbigh, North Wales.
1310	1886, Mar. 8	Clough-Taylor, Horace Geo.	39, Friar Lane, Leicester.
29	1868, Jun. 15	Clutton, Henry	Hartswood, Reigate, Surrey.
6	1868, Jun. 15	Clutton, John . . . . . (*Past-President*)	9, Whitehall Place, S.W.
78	A. '68, Jul. 13 / F. '75, May 10	Clutton, John Henry . . .	9, Whitehall Place, S.W.
61	A. '68, Jul. 6 / F. '74, Apr. 13	Clutton, Ralph	9, Whitehall Place, S.W.
221	A. '70, Jan. 10 / F. '75, Dec. 13	Clutton, Ralph William . .	Hartswood, Reigate, Surrey.
65	1868, Jul. 13	Clutton, Robert George . . (*Member of Council*)	9, Whitehall Place, S.W.

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153	1869, Jan. 11	CLUTTON, WILLIAM JAMES . .	The Mount, York, and The Castle, Cockermouth.
713	1882, Jan. 30	COBB, HERBERT MANSFIELD .	Higham, Kent, and 53, Lincoln's Inn Fields, W.C.
31	1868, Jun. 15	COBB, ROBERT LAKE	Higham, Kent, and 53, Lincoln's Inn Fields, W.C.
1544	1889, Jan. 14	COBHAM, CHARLES	"The Shrubbery," Gravesend, Kent, and Local Board Office, Grays, Essex.
1838	1890. Nov. 22	COBHAM, GEORGE RADCLIFFE .	1 & 3, Edwin Street, Gravesend, Kent.
2195	1891, Nov. 4	COCKS, ROBERT	Estates Office, Altrincham, Cheshire.
2196	1891, Nov. 4	COCKS, SAMUEL ROGER . . .	5, St. Thomas' Street, Ryde, Isle of Wight.
1574	1889, Feb. 11	COLES, JOHN ROBERT . . .	181, Queen Victoria Street, E.C.
1839	1890, Nov. 22	COLES, SAMUEL HOOD COWPER .	Penmyarth, Crickhowell, S. Wales.
769	A. '82, Feb. 27 / F. '84, Jan. 28	COLGATE, THOMAS	Sheffield Park, Uckfield, Sussex.
1710	1890, Feb. 10	COLLIER, RICHARD JAMES . .	34, Finsbury Pavement, E.C.
2197	1891, Nov. 4	COLLIER, WALTER HENRY . .	31, Moorgate Street, E.C.
1414	A. '87, Dec. 19 / F. '91, Feb. 2	COLLINGHAM, JOHN CYRIL LEES.	19, Mount Street, W.
119	1868, Aug. 17	COLLINS, HENRY HYMAN . .	61, Old Broad Street, E.C.
826	A. '82, Dec. 4 / F. '91, Jan. 19	COLLINS, MARCUS E.	61, Old Broad Street, E.C.
2198	1891, Nov. 4	COLTMAN, WALTER JOHN. . .	39, Great James Street, Bedford Row, W.C.
1925	1891, Jan. 17	COLYER, FREDERICK	18, Great George Street, S.W.
1501	1888, Nov. 26	COMBES, CYRUS	Tisbury, Wilts, and Misterton, Crewkerne, Somerset.
198	1869, Apr. 5	COMELY, JOHN GILL	Winchester, Hants.
2062	1891, May 23	COMMIN, FREDERICK JAMES . .	7, Bedford Circus, Exeter.
1926	1891, Jan. 17	CONDER, ALFRED	Palace Chambers, 9, Bridge Street, S.W.
1640	1889, Dec. 9	CONNOP, NEWELL	Bradfield Hall, Reading, and 8, New Broad Street, E.C.
1564	1889, Jan. 28	COOKE, HENRY	Thong, near Gravesend.
1172	1884, May 19	COOPER, ARTHUR LESLIE . .	86, High Street, Maidenhead.
2199	1891, Nov. 4	COOPER, GEORGE WARREN . .	Bedford Row House, Bedford Row, W.C.
715	1882, Jan. 30	COOPER, JOHN GROVES . . .	Bideford, Devon.
1927	1891, Jan. 17	COOPER, JOHN ROBERT . . .	35, Old Jewry, E.C., and Queen's Lodge, West End Lane, West Hampstead, N.W.
1895	1883, Feb. 26	COOPER, JOHN THOMAS. . . .	41, Moorgate Street, E.C.
445	1876. Apr. 24	COOTE, GEORGE	Smeetham Hall, Sudbury, Suffolk.
2200	1891, Nov. 4	COPLAND, WILLIAM ROBERTSON	146, West Regent Street, Glasgow.
2201	1891, Nov. 4	CORBETT, CHRISTOPHER GEORGE BENTHAM	9, Albert Square, Manchester.
1597	1889, Mar. 4	CORBETT, EDWIN WORTLEY MONTAGU	Bute Estate Office, Castle Street, Cardiff.
2202	1891, Nov. 4	CORBY, JOSEPH BOOTHROYD . .	Scotgate, Stamford, Lincolnshire.
2453	A. '91, Nov 4 / F. '92, May 30	*CORDEROY, ATHELSTANE. . .	19, Queen Anne's Gate, S.W.
1581	1889, Feb. 25	CORDEROY, GEORGE	19, Queen Anne's Gate, S.W.
926	A. 83, Apr. 16 / F. '89, Nov. 11	COUCHMAN, HENRY BOTELER .	5, Avon Place, Warwick.
934	1883, April 30	COUCHMAN, ROBERT EDWARD .	35, Paradise Street, Birmingham.
2203	1891, Nov. 4	COULSON, WILLIAM LINDSAY .	13, Ruvigny Gardens, Putney, S.W.

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556	1880, Jan. 5	COVERDALE, FREDERICK JOHN .	Ingatestone Hall, Essex.
723	1882, Feb 13	COVERDALE, HENRY	27, Bishopsgate Street Within, E.C.
1840	1890, Nov. 22	COWGILL, BRIAN BOLLANS HIRD	13A, Piece Hall Yard, Bradford.
1732	1890, Feb. 24	COX, EDWARD SAMUEL . . .	3, New Street, York.
729	1882, Feb. 13	COX, GEORGE JAMES	1, Promenade, Cheltenham.
2204	1891, Nov. 4	CRANFIELD, WILLIAM BATHGATE	6, Poultry, E.C.
159	1869, Jan. 25	CRAWTER, JOHN	Cheshunt, Herts.
961	A. '83, May 25 / F. '88, Nov. 26	CRAWTER, JOHN, JUN. . . .	41, Bedford Row, W.C., and Cheshunt, Herts.
160	1869, Jan. 25	CRICKMAY, GEORGE RACKSTROW.	17, Parliament Street, S.W., and St. Thom Street, Weymouth.
641	1889, Dec. 9	CRICKMAY, JOHN EDWARD . .	Weymouth, Dorset.
2205	1891, Nov. 4	CROCKETT, EDWIN ARTHUR BRASSEY	6, Poultry, E.C.
608	A. '81, Feb. 7 / F. '90, Feb. 24	CROFTS, EWAN NEVILE . . .	Fulbeck, Grantham, Lincolnshire.
730	1882, Feb. 13	CRONK, EDWYN EVANS . . .	12, Pall Mall, S.W., and Sevenoaks, Kent.
731	1882, Feb. 13	CRONK, FRANK	12, Pall Mall, S.W., and Sevenoaks, Kent.
871	1883, Jan. 29	CRONK, WILLIAM HENRY . .	Sevenoaks, Kent.
416	1876, Jan. 10	CROSS, JOHN . . . . . *(Member of Council)*	77, King Street, Manchester.
1754	1890, Mar. 10	CROSS, WILLIAM HASLAM . .	77, King Street, Manchester.
307	1873, Apr. 21	CROSS, WILLIAM STEPHENS . .	18, Outer Temple, and 2, Cecil Street, Strand, W.
2206	1891, Nov. 4	CROWTHER, JOHN HERBERT . .	38, New Street, Huddersfield.
389	A. '75, Mar. 1 / F. '80, Nov. 8	CRUSE, EDMUND	24, Bridge Street, Bristol, and Charlevil Clevedon, Somerset.
2208	1891, Nov. 4	CRUWYS, ROBERT	Bank Chambers, 465, Brixton Road, S.W.
1928	1891, Jan. 17	CUMBERLAND, EDWARD ANTHONY	Luton and Leighton Buzzard.
1604	1889, Mar. 18	CUNDY, HUBERT JOHN . . .	Wetherby and Leeds, Yorkshire.
32	1868, Jun. 15	CURREY, HENRY	37, Norfolk Street, W.C.
1565	1889, Jan. 28	CURREY, PERCIVALL	37, Norfolk Street, W.C.
1381	1887, Mar. 21	CURRY, HENRY JOHN . . .	58, High Street, Stockton-on-Tees.
581	1880, Dec. 13	CURTIS, CHARLES EDWARD . .	26, Gledstanes Road, West Kensington, W.
483	1877, Apr. 16	CURTIS, ROBERT LEABON . .	119 and 120, London Wall, E.C.
543	1879, Apr. 28	CURTIS, SAMUEL PERKINS . .	119 and 120, London Wall, E.C.
2063	1891, May 23	CUTLAN, JOHN ELLIS	Market Square, Wellingborough, Northampto shire.
2209	1891, Nov. 4	CUXSON, GEORGE AUSTIN PRICE	17, Victoria Street, S.W.
986	1883, Dec. 17	DAINTREE, JOHN OSBORN . .	"Lola," Teignmouth, Devon.
387	A. '75, Feb. 15 / F. '84, Jan. 14	DALE, JOHN	16, Whitehall Place, S.W.
638	1881, Dec. 19	DALLAS, EDWIN STUART . . .	34, Great James Street, Bedford Row, W.C.
987	1883, Dec. 17	DANIEL, HARRY AUGUSTUS HOOD	Keynsham Manor, Somerset.
732	1882, Feb. 13	DANN, HENRY	Dartford, Kent.
2210	1891, Nov. 4	DANSKEN, JOHN	121, West Regent Street, Glasgow.

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1666	{ A. '89, Dec. 9 / F. '91, Apr. 6 }	*Darch, John	74, Sarsfeld Road, Balham, S.W.
510	1878, Apr. 29	Darley, William	Llangwrn, Corwen, North Wales.
907	{ A. '83, Feb. 26 / F. '91, May 25 }	Dash, Roland Ashford . .	9, Whitehall Place, S.W., and Walton-on-Thames.
896	1883, Feb. 26	Dash, Thomas Alexis . . .	Ivy Cottage, Byfleet, Surrey.
1995	1891, Mar. 14	Davey, John George Ellis .	Holkham, Norfolk.
848	{ A. '82, Dec. 18 / F. '99, Nov 10 }	David, Edmund Ussher . .	Llandaff, near Cardiff.
1509	1888, Dec. 10	Davies, George Humphreys .	8, Laurence Pountney Hill, E.C.
1583	1889, Feb. 25	Davies, John	Mollington, Chester.
300	1873, Feb. 10	Davies, John Morgan . . .	Froodvale, Llanwrda, South Wales.
2211	1891, Nov. 4	Davies, Walter	6, Waterloo Place, S.W.
2212	1891, Nov. 4	Davis, Alfred Thomas . .	Shirehall, Shrewsbury.
1996	1891, Mar. 14	Davis, Charles Edward . .	Kirtling, near Newmarket, Cambs.
780	{ A. '82, Mar. 13 / F. '89, Nov. 11 }	Davis, Charles James . . .	32, Strand, W.C.
2213	1891, Nov. 4	Davis, Frederick William .	{ Bedford Chambers, 28-29, Southampton Street, Strand, W.C.
491	{ A. '77, Dec. 10 / F. '81, Nov. 14 }	Davis, James	32, Strand, W.C.
897	1883, Feb. 26	Daw, William Herbert . .	62, Coleman Street, E.C.
2214	1891, Nov. 4	Dawson, Edward Howard . .	41, Market Street, Lancaster.
1929	1891, Jan. 17	Dawson, John George . .	{ Kingston-on-Thames, and 4, Lincoln's Inn Fields, W.C.
2215	1891, Nov. 4	Dawson, Percy John . . .	100, Jermyn Street, St. James's, S.W.
1642	1889, Dec. 9	Day, George Carleton . .	Estate Office, Woodbridge, Shaftesbury, Dorset.
1009	{ A. '83, Dec. 17 / F. '87, Nov. 14 }	*Day, William, Jun. . . .	23, High Street, Maidstone, Kent.
683	1882, Jan. 16	Deacon, Thomas Mark. . .	1, Adelaide Street, Charing Cross, S.W.
1733	1890, Feb. 24	Deane, Edward	148, Friar Street, Reading, Berks.
1756	1890, Mar. 10	Dearle, William Henry . .	6, John Street, Adelphi, W.C.
1442	1888, Jan. 23	Debenham, Frank Gissing .	Cheshunt Park, Herts, and 80, Cheapside, E.C.
2216	1891, Nov. 4	Deer, Edward	Stratford-on-Avon.
1010	{ A. '83, Dec. 17 / F. '91, Oct. 15 }	Demetriadi, Thomas Marsden	28, John William Street, Huddersfield.
1930	1891, Jan. 17	Dennison, John William . .	Wakefield Lodge, East Ham, Essex.
863	1883, Jan. 15	Dent, Ralph John. . . .	The Cedars, Harrogate, Yorkshire.
8	1868, Jun. 15	Denton, John Bailey . . .	Palace Chambers, 9, Bridge Street, S.W.
759	1882, Feb. 27	Dew, William Arthur . . .	Wellfield House, Bangor.
1711	1890, Feb. 10	De Wend, William Fenton .	New Market Buildings, Bridgnorth.
1228	{ A. '84, Dec. 8 / F. '85, May 18 }	*Dickson, Thomas Arthur . .	Estate Office, Overston Park, Northampton.
884	1883, Feb. 12	Dinwiddy, Thomas	Croom's Hill, Greenwich Park, S.E.
169	{ A. '69, Feb. 8 / F. '78, Feb. 25 }	Dodgson, Wilfred Longley .	{ The Court, Cleobury North, Bridgnorth, and 55, Broad Street, Ludlow.
1136	1884, Apr 21	Doll, Charles Fitzroy . .	74, Gower Street, Bedford Square, W.C.
2217	1891, Nov. 4	Dollar, Peter	44, Great Marlborough Street, W.
1415	{ A. '87, Dec. 19 / F. '91, Dec. 7 }	*Done, John James	45, Lincoln's Inn Fields, W.C.
1250	1885, Feb. 9	Donne, Henry	Leek Wootten, Warwick.
2218	1891, Nov. 4	Dorning, Arthur Harry . .	41, John Dalton Street, Manchester.

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1582	1889. Feb. 25	DORNING, ELIAS	41, John Dalton Street, Manchester.
163	A. '69, Jan. 25 / F. '82, Nov. 31	DOWDEN, HENRY JOSEPH . .	6, Spring Gardens, S.W.
493	1878, Jan. 14	DOWNING, FREDERICK . . .	7A, Whitehall Yard, S.W.
1997	1891, Mar. 14	DOWNING, HENRY PHILIP BURKE	175, Strand, W.C.
2219	1891, Nov. 4	DOWSETT, CHARLES FINCH . .	3, Lincoln's Inn Fields, W.C.
1841	1890, Nov. 22	DRANSFIELD, HENRY BROOK .	12, 13, & 14, Estate Buildings, Huddersfield.
817	A. '82, May 22 / F. '84, May 19	DRAPER, ARTHUR THOMAS . .	Friar Lane, Leicester.
1348	1887, Jan. 10	DRAY, ALFRED	Town Hall Chambers, Hastings, Sussex.
301	1873, Feb. 10	DREW, HENRY . . . . . *(Member of Council)*	15, Queen Street, Exeter.
1336	A. '86, Dec. 6 / F. '88, Nov. 12	*DREW, HENRY ALBAN . . .	15, Queen Street, Exeter.
1095	A. '84, Feb. 11 / F. '89, Jan. 14	DREW, JOHN GOULD	15, Queen Street, Exeter.
2220	1891, Nov. 4	DREWEATT, THOMAS	Newbury, Berkshire.
913	1883, April 2	DREWITT, GEORGE	94, High Street, Guildford.
419	A. '76, Jan. 10 / F. '78, Feb. 25	DRIVER, CHARLES WILLIAM .	4, Whitehall, S.W.
9	1868, Jun. 15	DRIVER, ROBERT COLLIER . . *(Past-President)*	4, Whitehall, S.W.
582	1880, Dec. 13	DRIVER, ROBERT MANNING . .	4, Whitehall, S.W.
684	1882, Jan. 16	DRURY, EDWARD DRU . . .	25, Queen Anne's Gate, S.W.
1802	1890, May 29	DUKE, EDWARD	Dorchester.
1803	1890, May 29	DUKE, FREKE GUY RASHLEIGH	Braehead, Kilmarnock.
2064	1891, May 23	DUKE, HENRY, JUN.. . . .	Dorchester, Dorset.
1779	1890, Apr. 14	DUNCALFE, HENRY GEORGE .	102, Darlington Street, Wolverhampton.
2221	1891, Nov. 4	DUNCAN, JAMES MORISON . .	70, Queen Street, E.C.
324	1874, Jan. 5	DUNCH, CHARLES.	St. Clement's House, St. Clement's Lane, E.C
252	1871, Jan. 30	DUNLOP, ALEXANDER MILNE . *(Vice-President)*	3, Old Palace Yard, S.W.
1931	1891, Jan. 17	DUNN, WILLIAM HENRY . .	27, Bishopsgate Street Within, E.C.
1932	1891, Jan. 17	DUVALL, JOHN WILLIAM . .	The Grange, Ware.
2222	1891, Nov. 4	DYBALL, HARVEY	35, Bucklersbury, E.C.
1933	1891, Jan. 17	DYBALL, SEXTUS	35, Bucklersbury, E.C.
792	1882, Apr. 24	DYER, WILLIAM JOHN . . .	Montpelier Row, Blackheath, S.E.
35	1868, Jun. 15	DYMOND, FRANCIS WILLIAMS .	Bampfylde House, Exeter.
1251	1885, Feb. 9	EADE, ARTHUR WILLOUGHBY FRENCH	Feethams, Darlington.
1529	A. '91, Dec. 10 / F. '92, May 30	*EAGLAND, WILLIAM FRANCIS .	Burley, Leeds.
1584	1889, Feb. 25	EAGLE, WILLIAM.	77, King Street, Manchester.
864	1883, Jan. 15	EALES, FREDERICK ERNEST .	9, Welbeck Street, W.
1585	1889, Feb. 25	EAMES, EDWARD	Stoke Manor, near Alresford, Hants.
1934	1891, Jan. 17	EARDLEY, JOHN WILLIAM . .	Swanwick Colliery, Alfreton, Derbyshire.
2223	1891, Nov. 4	EARLE, THOMAS ALGERNON . .	90, King Street, Manchester.
2224	1891, Nov. 4	EARNSHAW, JACOB	10, St. James' Square, Manchester.

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225	1891, Nov. 4	Eastham, James Cook . . .	The Town Hall, Manchester.
998	1891, Mar. 14	Easton, John H.	Bowl Alley Lane, Hull.
999	1891, Mar. 14	Eayrs, John Thomas . . .	Town Hall, West Bromwich.
935	1891, Jan. 17	Edmeston, James	42, Old Broad Street, E.C.
210	1884, Nov. 10	Edwardes, Charles Bidwell .	The Precincts, Peterborough.
226	1891, Nov. 4	Edwards, Arthur Phippen .	Hutton, near Weston-super-Mare, Somerset.
639	1881, Dec. 19	Egerton, Hubert Decimus .	8, New Road, Oxford.
988	1883, Dec. 17	Eggar, James Alfred . . .	9, West Street, Farnham, Surrey.
173	1884, May 19	Egginton, John	150, Friar Street, Reading.
530	A. 1879, Jan. 20 / F. 1883, Dec. 3	Eiloart, Frederick Edward .	40, Chancery Lane, W.C.
629	1889, Nov. 25	Eldridge, Herbert . . .	28, Cadogan Place, Belgrave Square, S.W.
227	1891, Nov. 4	Elford, John	King Street, Poole, Dorset.
434	1888, Jan. 9	Elgar, J. Edward	Crockshard, Wingham, Kent.
886	A. '90, Nov. 22 / F. '92, Feb. 1	Elgood, Frank Minshull .	98, Wimpole Street, W.
401	1887, Dec. 19	Ellen, Frederick Charles .	The Auction Mart, Andover.
1036	1884, Jan. 14	Elliott, Charles	Wilts and Dorset Bank Chambers, George Street, Plymouth, and The Fawns, Ermington, Ivy Bridge, Devon.
2228	1891, Nov. 4	Ellis, Edward	Bedford Chambers, Exeter.
577	A. '80, Mar. 15 / F. '87, Nov. 14	Ellis, Ernest Harold . .	132, High Street, Guildford.
2065	1891, May 23	Ellis, Frederick	141, Inverness Terrace, W.
830	1882, Dec. 18	Ellis, Henry	60, Chancery Lane, W.C.
1530	A. '88, Dec. 10 / F. '90, May 12	*Ellis, Herbert Moates . .	Suffolk House, Laurence Pountney Hill, E.C.
1365	A. '87, Jan. 24 / F. '91, Feb. 16	*Ellis, Ralph Staples . . .	29, Fleet Street, E.C.
885	1883, Feb. 12	Ellis, Richard Adam . . .	45, Fenchurch Street, E.C.
380	1875, Feb. 1	Ellis, Sir John Whittaker, Bart., M.P.	29, Fleet Street, E.C., and 18, Old Broad Street, E.C.
2066	1891, May 23	Ellis, William Alfred . .	176, Brompton Road, S.W.
2229	1891, Nov. 4	Ellison, Michael	Duke of Norfolk's Estate Offices, Sheffield.
667	A. '81, Dec. 19 / F. '90, Dec. 8	Elwell, William Henry . .	Surveyor's Office, Great Northern Railway, King's Cross, N.
276	1872, Feb 26	Emmanuel, Barrow	2, Finsbury Circus, E.C.
2230	1891, Nov. 4	Evans, Arthur Owen . . .	Town Hall, Pontypridd, Glamorganshire.
1757	1890, Mar. 10	Evans, Charles Lee . . .	Norton Hill, Runcorn, Cheshire.
1936	1891, Jan. 17	Evans, George	1, Adelaide Street, W.C.
2000	1891, Mar. 14	Evans, Henry	Newlands Estate Office, Milford-on-Sea, near Lymington, Hants.
898	1883, Feb. 26	Evans, Robert	Eldon Chambers, Wheeler Gate, Nottingham.
2231	1891, Nov. 4	Evans, Walter Pearson . .	Caldwell, Nuneaton.
2232	1891, Nov. 4	Evans, William	St. John Street, Beverley, Yorkshire.
338	A. 1874, Feb. 16 / F. 1876, Nov. 27	Evans, William Ernest . .	School Gardens, Shrewsbury.
1416	A. '87, Dec. 19 / F. '91, May 25	*Eve, Herbert Trustram . .	2, St. Paul's Square, Bedford.
685	1882, Jan. 16	Eve, John Richard	St. Paul's Square, Bedford, Bedfordshire.
104	1868, Aug. 3	Eve, William	10, Union Court, Old Broad Street, E.C.
1882	1887, Mar. 21	Everard, John Breedon . .	6, Millstone Lane, Leicester.

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2233	1891, Nov. 4	EVERILL, FRANK	59, Foregate Street, Worcester.
557	1880, Jan. 5	FAIR, JACOB WILSON . . .	Haigh Hall, Wigan, and 8, Winckley Street, Preston.
1510	1888, Dec. 10	FAIR, JAMES STRETTON . .	Estate Offices, Lytham, and 4, Winckley Street, Preston.
1174	1884, May 19	FAIR, THOMAS	Estate Offices, Lytham, Lancashire.
1937	1891, Jan. 17	FAIRCLOUGH, WILLIAM . . .	60, King Street, Manchester.
1758	1890, Mar. 10	FALCON, MICHAEL	Horstead House, Norfolk.
2001	1891, Mar. 14	FARMAR, CHARLES LEWIS ATTERBURY	Wolterton Park, Aylsham, Norfolk.
1062	1884, Jan. 28	FARMER, EDMUND	80, Cheapside, E.C.
2234	1891, Nov. 4	FARNAN, HENRY RICHARD . .	75, Coleman Street, E.C.
1759	1890, Mar. 10	FARRAR, SIDNEY HOWARD . .	69, Cornhill, E.C., and Port Elizabeth, Johannesburg, South Africa.
2002	1891, Mar. 14	FARRER, JOHN	Oulton, near Leeds, Yorkshire.
2235	1891, Nov. 4	FARTHING, WALTER THOMAS .	46, Strand, W.C.
1938	1891, Jan. 17	FARWELL, FREDERICK GEORGE .	11, Laura Place, Bath.
1321	1886, May 17	FAWKES, ALGERNON	Sudbury, Derby.
1037	1884, Jan. 14	FAYERMAN, GEORGE METCALFE	88, The Parade, Leamington, Warwickshire.
1402	1887, Dec. 19	FENN, JOHN	The Hall, Ardleigh, and 146, High Street, Colchester.
1712	1890, Feb. 10	FENN, THOMAS	Downton Castle, Ludlow.
565	A. '80, Jan. 19 / F. '87, Mar. 21	FENNING, HERBERT SAMUEL .	St. Paul's Square, Bedford, Bedfordshire
2003	1891, Mar. 14	FENWICK, THOMAS	Leeds, Yorkshire.
1804	1890, May 29	FERGUSSON, JAMES	Livermore, Bury St. Edmund's, Suffolk.
974	1883, Nov. 12	FERRIS, GEORGE	Milton Manor, Pewsey, Wilts.
831	1882, Dec. 18	FIDDIAN, WILLIAM	Town Hall Offices, Stourbridge.
297	1873, Jan. 27	FIELD, FRANCIS HAYWARD . .	11, King Edward Street, Oxford.
872	1883, Jan. 29	FIELD, JAMES FREDERICK . .	54, Borough High Street, S.E.
1842	1890, Nov. 22	FILLINGHAM, EDWARD . . .	Spring Bank, Hull.
2236	1891, Nov. 4	FINN, ADOLPHUS	High Street, Lydd, Kent.
2237	1891, Nov. 4	FINN, ARTHUR GEORGE . . .	The Deanery, Chartham, Canterbury.
1843	1890, Nov. 22	FINN, GEORGE WILLIAM . .	Westwood Court, Faversham, Kent.
927	A. '83, Apr. 16 / F. '89, Jan. 14	FISHER, CHARLES BROWNING .	Hill Crest, Market Harborough.
1459	1888, Feb. 20	FISHER, EDWARD KNAPP . .	Market Harborough, Leicestershire.
1038	1884, Jan 14	FLEETWOOD, GEORGE . . .	15, Furnival's Inn, E.C.
1465	1888, Mar. 5	FLETCHER, THOMAS	Estate Office, Dunkenhalgh, Clayton-le-Moors near Accrington.
749	A. '82, Feb. 13 / F. '91, June 29	FLINT, WILLIAM HURST. . .	11, Serle Street, Lincoln's Inn Fields, W.C.
562	1880, Jan. 19	FLOCKTON, THOMAS JAMES . .	15, St. James' Row, Sheffield.
1734	1890, Feb. 24	FODEN, EDWARD ANTROBUS .	Teddesley Estate Office, Penkridge, Staffordshire
1805	1890, May 29	FOLEY, JOHN HOWARD . . .	Manvers Street, Trowbridge.
2067	1891, May 23	FORBES, CHARLES MANSFELDT .	14, New Street, York.
2238	1891, Nov. 4	FORD, LAWTON, ROBERT . . .	St. Thomas's Chambers, 24, Railway Approach, London Bridge, S.E.

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3	1891, May 23	Formby, Geoffrey Oswald .	Exton Estate Office, Exton, Oakham, Rutland.
0	1881, Dec. 19	Forrest, Robert	Windsor Estate Office, St. Fagans, near Cardiff.
1	1879, Dec. 8	Forshaw, Edward	Basford, Stoke-upon-Trent.
4	1890, Nov. 22	Forsyth, Thomas Hills . .	39, Northumberland Street, Newcastle-upon-Tyne.
9	1884, Jan. 14	Fosbery, William Thomas Exham	Warwick.
9	1872, Mar. 11	Foster, Charles Rolls . .	54, Pall Mall, S.W.
9	1891, Nov. 4	Foster, Henry Edwin . . .	6, Poultry, E.C.
1	1881, Dec. 19	Foster, Joseph Burgess . .	4, Cambridge Street, Plymouth, Devon.
7	1882, Jan. 16	Foulkes, Septimus Gifford .	Tring, Herts.
6	1882, Jan. 16	Fowler, Frederick. . . .	St. James' Street, Sheffield.
6	189 , May 29	Fowler, Gerard Edmund . .	93, New Street, Birmingham.
7	1890, May 29	Fowler, Henry	63, Dale Street, Manchester.
2	1882, Dec. 18	Fowler, Henry.	6, Waterloo Street, Birmingham.
0	1890, Apr. 14	Fowler, Reginald William .	8, George Street, Sheffield.
3	1887, Dec. 19	Fowler, Richard	118, Colmore Row, Birmingham.
5	1880, Mar. 18	Fowler Sydney.	9, Craig's Court, Charing Cross, S.W.
0	1891, Nov. 4	Fowler, William	69, Temple Row, Birmingham.
1	1891, Nov. 4	Fox, Charles James . . .	22, George Street, Halifax.
5	1890, Nov. 22	Fox, Edwin, Jun.	99, Gresham Street, E.C.
2	1891, Nov. 4	Frampton, Alfred	62 and 63, Basinghall Street, E.C.
3	1891, Nov. 4	France, Arthur Alderson .	99, Swan Arcade, Bradford.
4	1891, Nov. 4	France, Charles	99, Swan Arcade, Bradford.
5	1889, Jan. 14	Francis, George Futvoye . .	Eaton Chambers, Buckingham Palace Road, S.W
0	1890, Mar. 10	Francis, Leon Albert . . .	6, John Street, Adelphi, W.C.
8	1890, May 29	Franklin, Arthur Thomas .	25, Ludgate Hill, E.C.
1	1883, April 16	Franklin, Thomas	Ascot, near Wallingford.
9	1890, May 29	Franklin, Thomas Frederick .	25, Ludgate Hill, E.C.
2	1883, April 16	Franklin, William Taylor .	Ascot, near Wallingford.
4	A. '84, Feb 25 F. '90, Apr. 14	Freeman, Sydney	28, Queen Street, E.C.
7	1884, Dec. 8	Frecer, William	West Rudham, Swaffham, Norfolk.
9	1891, May 23	Frost, Frederic Cornish . .	Teignmouth, Devon.
9	1875, Jan 18	Fry, George Frederick . .	46, London Road, Dover, Kent.
4	1882, Feb. 13	Fryer, George	15, Parliament Street, Hull, and Rose Villa, Bishop Wilton, near York
3	1884, Jan. 28	Fuller, Ernest.	98, Wimpole Street, W.
0	A. '82, Feb. 13 F. '87, Nov. 14	Fuller, George John. . .	85 & 87, Gresham Street, E.C.
0	1884, Jan. 14	Fuller, Harry	83, High Street, Croydon.
7	A. '83, May 21 F. '88, Nov. 26	Fuller, Herbert Henry . .	15, Serjeants' Inn, Fleet Street, E.C.
4	A. '84, Mar. 10 F. '91, Apr. 20	Fuller, Thomas Alfred . .	The College, All Saints', Derby.
5	1882, Mar. 13	Furber, Herbert	2, Warwick Court, Gray's Inn, W.C.
4	1884, Jan. 28	Furber, William	2, Warwick Court, Gray's Inn, W.C.

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417	1876, Jan. 10	GAIRDNER, EDWARD JAMES	27, Southampton Buildings, W.C.
2245	1891, Nov. 4	GALE, ARTHUR JOHN	Temple Chambers, Whitefriars, E.C.
2004	1891, Mar. 14	GALE, ERNEST SEWELL	Falcon Court, 32, Fleet Street, E.C.
761	1882, Feb. 27	GALE, JOSEPH JOHN	Market Place, Wallingford, Berks.
819	1882, Nov. 13	GALPIN, CHARLES ALEXANDER	36, Pembroke Street, Oxford.
55	1868, Jul. 6	GALSWORTHY, FREDERICK THOMAS (*Member of Council*)	11, Waterloo Place, S.W.
1713	1890, Feb. 10	GAMBLE, SIDNEY GOMPERTZ	Metropolitan Fire Brigade, Southwark Bridge Road, S.E.
1606	1889, Mar. 18	GANDY, JAMES	22, Essex Street, Strand, W.C.
735	1882, Feb. 18	GARDINER, EDWARD JAMES	110, Great Russell Street, W.C.
127	1868, Sep. 28	GARDINER, WILLIAM JAMES	110, Great Russell Street, W.C.
98	A. 1868, Jul. 27 F. 1883, Nov. 12	GARRARD, ARTHUR (*Member of Council*)	66, Cannon Street, E.C.
2246	1891, Nov. 4	GARRARD, NORTON BURROUGHS	Cranley Hall, Eye, Suffolk.
2247	1891, Nov 4	GARROOD, THOMAS WILLIAM M.	11, Queen Victoria Street, E.C.
1810	1890, May 29	GATE, ALFRED JOSEPH	20, Mecklenburg Square, W.C.
688	1882, Jan. 16	GATER, CALEB WILLIAM	Salisbury, Wilts.
1203	A. '84, May 26 F. '89, Jan. 14	GAYFORD, HENRY JOHN	Raynham Estate Office, East Raynham, Norfolk
1643	1889, Dec. 9	GAZE, THOMAS WILLIAM	Frenze Hall, Diss, Norfolk
2248	1891, Nov. 4	GELDER, WILLIAM ALFRED	12, Bowl Alley Lane, Hull.
935	1883, April 30	GERMAN, GEORGE	Ashby-de-la-Zouch, Leicestershire
2070	1891, May 23	GERMAN, HARRY	Loughborough, and Ashby-de-la-Zouch.
887	1883, Feb. 12	GERMAN, JOHN	Ashby-de-la-Zouch, Leicestershire.
1161	A. '84, May 5 F. '87, Nov. 14	*GIBB, WILLIAM PASHLEY	Estate Office, Stafford Street, Dublin.
1294	A. '86, Jan. 11 F. '90, Nov. 10	GIBBON, WILLIAM JACOMB	36, Great James Street, Bedford Row, W.C.
1620	1889, Apr. 29	GIBSON, DENSTON	93, New Street, Birmingham.
381	1875, Feb. 1	GILBERT, WILLIAM HENRY SAINSBURY	62, Old Broad Street, E.C.
1621	1889, Apr. 29	GILLART, DAVID	Mostyn, Llandudno, Carnarvonshire
1466	1888, Mar. 5	GILPIN-BROWN, WILLIAM DUNDAS	Blankney Estate Office, Metheringham, Lincoln
213	1869, Dec. 6	GIRDWOOD, JAMES	18, Adam Street, Adelphi, W.C.
2249	1891, Nov. 4	GIVEN, MAXWELL	Town Surveyor's Office, Coleraine, Co. Derry.
420	1876, Jan. 24	GLASIER, GEORGE HENRY BROUGHAM	6, Spring Gardens, S.W.
1702	1890, Jan. 27	GLEED, RICHARD CUMMINGS	5, Adelaide Place, London Bridge, E.C.
1566	1889, Jan. 28	GODDARD, JOSEPH	6, Market Street, Leicester, and Carlton Chambers, 12, Regent Street, S.W.
1286	A. '85, Dec. 7 F. 86, May 17	*GODFREY, ROBERT	Valentine Road, King's Heath, near Birmingham
2250	1891, Nov. 4	GODSELL, GEORGE HERBERT	Palace Chambers, King Street, Hereford.
2005	1891, Mar. 14	GOLDSMITH, WILLIAM	40, Old Broad Street, E.C.
2251	1891, Nov. 4	GOODACRE, JOHN	5, Friar Lane, Leicester.
1511	1888, Dec. 10	GOODACRE, ROBERT JOHNSON	Friar Lane, Leicester.

ip. No.	Date of Election and of Transfer.	FELLOWS.	
989	1883, Dec. 17	GOODCHILD, JOSIAH	59, Tollington Park, N.
546	1889, Jan. 14	GOODWYN, LEONARD WILLIAM .	8, Granville Chambers, Granville Place, Portman Square, W.
006	1891, Mar. 14	GORDON, CHARLES GRIMSTON .	Albany Mansions, 39, Victoria Street, S.W.
314	A. '73, May 19 / F. '78, Mar. 11	GORE, SPENCER W.	16, Whitehall Place, S.W.
939	1891, Jan. 17	GOTT, CHARLES	8, Charles Street, Bradford.
252	1891, Nov. 4	GOTT, CHARLES HENRY . . .	8, Charles Street, Bradford.
567	1889, Jan. 28	GOTT, FRANK	3, East Parade, Leeds.
478	A. '77, Feb. 12 / F. '82, Dec. 18	GOTTO, FREDERICK EDWARD .	Stony Stratford, Bucks.
578	1880, Apr. 12	GOULDING, WILLIAM PURDHAM.	41, Moorgate Street, E.C.
071	1891, May 23	GOULDSMITH, GEORGE WALLER.	2, Pont Street, Belgrave Square, S.W.
072	1891, May 23	GOVER, ARTHUR SUTTON . .	4, Queen Street Place, E.C.
253	1891, Nov. 4	GOVER, JOHN RICHARD . . .	5, Guildhall Chambers, Basinghall Street, E.C.
346	1890, Nov. 22	GRADWELL, ARTHUR RICHARD .	10, Richmond Terrace, Blackburn.
254	1891, Nov. 4	GRAHAM, ARTHUR GORE . . .	Victoria Chambers, Newport, Monmouthshire.
370	1875, Jan. 18	GRAHAM. WILLIAM	Victoria Chambers, Newport, Monmouthshire.
218	1884, Dec. 8	GRAIN, ARTHUR TRESS . . .	2, St. Andrew's Hill, Cambridge.
979	A. '88, Nov. 12 / F. '91, Feb. 16	GRANT, HARRY GRÆME . . .	Surveyor's Office, Great Western Railway, Paddington Station, W.
827	A. '82, Dec. 4 / F. '85, Jan. 12	GRANT, JAMES	Penrallt, Llanidloes, Montgomeryshire.
260	1885, Mar. 9	GRAVES, WALTER	Winchester House, Old Broad Street, E.C.
255	1891, Nov. 4	GREAVES, JOHN OLDROYD . .	69, Westgate, Wakefield.
259	1891, Nov. 4	GREEN, ALFRED WILLIAM . .	Clare Castle, County Clare, Ireland.
690	1882, Jan. 16	GREEN, JAMES	22, Chancery Lane, W.C.
735	1890, Feb. 24	GREEN, JOHN	Sunnyside, Wake Green Road, Moseley, Birmingham.
256	1891, Nov. 4	GREEN, ROBERT COUPER . .	26, Fawcett Street, Sunderland,
188	1884, May 26	GREEN, SAMUEL	28 and 29, St. Swithin's Lane, E.C.
387	A. '86, Dec. 6 / F. '90, Feb. 10	GREEN, THOMAS JOSEPH . .	28 and 29, St. Swithin's Lane, E.C.
847	1890, Nov. 22	GREEN, THOMAS THORNTON .	12 & 13, Poultry, E.C.
492	1888, Nov. 12	GREEN, VALENTINE	11, Elmer Street, Grantham.
257	1891, Nov. 4	GREGSON, WILLIAM	Baldersby, Thirsk, Yorks.
087	1884, Feb. 11	GRELLIER, HARLEY MAIR . .	6, Queen Anne's Gate, S.W.
371	1875, Jan. 18	GREY, CHARLES GREY . . .	2, Northbrook Road, Leeson Park, Dublin.
073	1891, May 23	GRIFFIN, HAROLD	54, High Street, Battersea, S.W.
714	1890, Feb. 10	GRIFFITHS, EDWARD, JUN. . .	Knockin, near Oswestry.
050	A. 91, Mar. 14 / F. '91, Dec. 7	*GRIFFITHS, HAROLD	The School Board for London, Victoria Embankment, W.C.
736	1890, Feb. 24	GRIFFITHS, WILLIAM . . .	Gelley-Wernen Estate, Llanelly, Carmarthenshire.
258	1891, Nov. 4	GRIGGS, ROBERT	11, Gray's Inn Square, W.C.
511	1889, Apr. 1	GRIMLEY, EDWIN FEARN . .	40, Temple Street, Birmingham.
512	1889, Apr. 1	GRIMLEY, THOMAS	40, Temple Street, Birmingham.
142	A. '91, May 23 / F. '92, May 30	*GROGAN, HEDWORTH HERBERT.	125, Piccadilly, W.
486	1892, Feb. 26	GROGAN, HENRY THOMAS . .	101, Park Street, Grosvenor Square, W.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
1811	1890, May 29	GROSE, VINCENT JOHN . . .	13, Railway Approach, S.E.
2260	1891, Nov. 4	GRUNING, EDWARD AUGUSTUS .	25, Gresham House, Old Broad Street, E.C.
1737	1890, Feb. 24	GUDGEON, GEORGE EDWARD .	Estate Agency Offices, Winchester, Hants.
2261	1891, Nov. 4	GURNEY, JAMES	Chalfont St. Giles, Slough, Bucks.
433	1876, Mar. 20	GWYTHER, WILLIAM WARLOW .	102, Temple Chambers, Temple Avenue, E.C.
2262	1891, Nov. 4	HABGOOD, HENRY CHARLES . .	Witney, Oxfordshire.
1586	1889, Feb. 25	HACKFORD, GEORGE	6, Queen Anne's Gate, S.W.
347	1874, Mar. 16	HADDOCK, ROLAND	45, High Street, Croydon, Surrey.
2263	1891, Nov. 4	HALE, RAYMOND HENRY . . .	6, Duke Street, Adelphi, W.C.
2264	1891, Nov. 4	HALL, CHARLES EDWARD . .	The Albany, Old Hall Street, Liverpool.
619	1881, May 2	HALL, ERNEST	166, Queen Street, Portsea, Hants.
517	1878, Dec. 9	HALL, JOHN GEORGE . . .	1, Caithness Road, West Kensington, W.
923	1883, April 16	HALL, WALTER	38, Chancery Lane, W.C.
1295	A. '86, Jan. 11 / F. '91, June 29	*HALL, WILLIAM TIMOTHY . .	Talbot Chambers, Shrewsbury.
1189	1884, May 26	HALLETT, WILLIAM BROWN. .	11, Queen Victoria Street, E.C., and 278, Holloway Road, N.
691	1882, Jan. 16	HAMILTON, HENRY	64 & 65, Coleman Street, E.C.
1738	1890, Feb. 24	HAMILTON, JOHN.	23 & 24, Wormwood Street, E.C
2265	1891, Nov. 4	HAMPTON, WILLIE THOMAS . .	Hotel Street, Coalville, Leicester.
1481	1888, Apr. 30	HANCOCK, WILLIAM ST. JOHN Hü	Hong Kong, China, and 14, Clifford's Inn, E.C
1687	1890, Jan. 6	HANKINSON, THOMAS JAMES .	Richmond Chambers, Bournemouth, Hants.
1240	1885, Jan. 12	HANNEN, REGINALD ST. JOHN .	The Cottage, Fordingbridge, Salisbury.
892	A. '83, Feb. 12 / F. '89, Jan. 14	*HANSELL, REGINALD GODDARD .	Lonsdale Chambers, 27, Chancery Lane, W.C.
1245	1885, Jan. 26	HANSON, AMOS	35, Church Street, St. Helen's, Lancashire.
2266	1891, Nov. 4	HANSON, JOHN HENRY . . .	20, Ramsden Street, Huddersfield.
642	1881, Dec. 19	HARDCASTLE, FREDERICK HENRY APPLETON	34, Southampton Street, Strand, W.C.
481	A. '77, Mar. 26 / F. '82, Dec. 18	HARDING, EDWARD ERNEST .	80, St. Paul's Churchyard, E.C.
363	1875, Jan. 4	HARDING, JOSEPH	49, Lune Street, Preston.
643	1881, Dec. 19	HARDING, SIDNEY LONGHURST .	St. Albans, Herts.
1482	1888, Apr. 30	HARDY, RICHARD THOMAS ASH	Estate Offices, Marchington, Staffordshire.
1613	1889, Apr. 1	HARGRAVES, STEPHEN . . .	20, St. Ann's Square, Manchester.
2074	1891, May 23	HARLAND, MARCHANT JAMES .	Strafford Road, High Barnet.
2007	1891, Mar. 14	HARLE, JOHN JOSEPH . . .	Tortworth Estate Office, Falfield, Gloucester.
2267	1891, Nov. 4	HARPUR, WILLIAM	Town Hall, Cardiff.
496	A. 1878, Jan. 28 / F. 1883, Nov. 12	HARRINGTON, GEORGE FREDERICK	16, Abchurch Lane, E.C.
990	1883, Dec. 17	HARRIS, JAMES	Winchester, Hants.
1739	1890, Feb. 24	HARRISON, JAMES THOMAS . .	Town Hall Offices, Buckingham.
2075	1891, May 23	HARRISON, RICHARD CREESE .	103, Cannon Street, E.C.
1812	1890, May 29	HARSTON, ARTHUR	15, Leadenhall Street, E.C.
263	1871, Feb. 27	HART, WILLIAM FREDERICK .	Lambeth Waterworks, Brixton Hill, S.W.

p.	Date of Election and of Transfer.	FELLOWS,	
12	1888, Dec. 10	HARVEY, FREDERICK HENRY .	Clapham Junction House, S.W.
23	A. '78, Dec. 9 / F. '90, Jan. 6	HARVEY, JOHN JAMES SAYER .	80, Castle Street, Canterbury, Kent.
51	A. '89, Jan. 14 / F. '91, Oct. 15	HASKINS, WILLIAM ALBION . .	7A, Whitehall Yard, S.W.
12	1873, May 19	HASLAM, DRYLAND	17, Friar Street, Reading.
32	A. '83, May 25 / F. '89, Apr. 1	*HASLUCK, LANCELOT GERALD .	Green Hill Park, New Barnet, Herts.
07	1889, Mar. 18	HAUGHTON, WILLIAM HOGHTON .	Highlands, Great Barford, St. Neots.
58	1891, Nov. 4	HAWKER, HARRY EDWIN . . .	St. Peter's Chambers, Bournemouth.
72	1888, Mar. 19	HAWKINS, CHARLES . .	Downham Market, Norfolk.
08	1889, Mar. 18	HAWLEY, HENRY MICHAEL . .	Tumby Lawn, Boston.
39	1891, Nov. 4	HAYNES, HENRY	Estate Office, Clifton, Nottingham.
13	1888, Dec. 10	HAYTON, JOSEPH WILLIAM .	Devonshire Chambers, Carlisle.
76	1891, May 23	HAYTON, PATTINSON	Devonshire Chambers, Carlisle.
44	1881, Dec. 19	HAYWARD, HENRY	Dover, Kent.
53	1885, Feb. 23	HAYWOOD, HENRY	9, West Street, Hereford.
54	1868, Jul. 6	HAYWOOD, WILLIAM, LIEUT.-COLONEL	Guildhall, E.C.
54	1885, Feb. 23	HAYWOOD, WILLIAM MATTHEWS.	9, West Street, Hereford.
73	A. '89, Dec. 9 / F. '91, May 25	*HEAD, JOHN GEORGE	7, Upper Baker Street, N.W.
33	1882, Dec. 1	HEARD, HERBERT	Shepton Mallet, Somerset.
70	1891, Nov. 4	HEATH, HENRY	17, Devonshire Square, Bishopsgate, E.C.
92	1882, Jan. 16	HEATON, GEORGE HERBERT .	Endon, near Stoke-upon-Trent, Staffordshire.
17	1881, Apr. 4	HEBBLETHWAITE, LOUIS . .	Conservancy Buildings and Anlaby Road, Hull.
48	1890, Nov. 22	HEBDITCH, WILLIAM BENJAMIN	Stratton, South Petherton, Ilminster, Somerset.
27	1886, Dec. 6	HEDLEY, JOHN HUNT . . .	55, John Street, Sunderland.
88	1884, Feb. 11	HEDLEY, ROBERT WILKIN . .	31A, Colmore Row, Birmingham.
50	1871, Jan. 15	HEDLEY, THOMAS FENWICK . .	Sunderland.
40	1890, Feb. 24	HEELIS, WILLIAM	26, Budge Row, E.C.
21	A. '82, Nov. 13 / F. '90, Jan. 6	HENDERSON, HENRY ARTHUR .	28, Finsbury Pavement, E.C.
28	1886, Dec. 6	HENDRIKS, HENRY	25, Cannon Street, Birmingham.
78	1887, Mar. 7	HEPPER, JOHN	East Parade, Leeds.
19	1884, Dec. 8	HERBERT, ALLAN	The Market Place, Andover, Hants.
91	1883, Dec. 17	HERON, WILLIAM CHARLES . .	Uxbridge, Middlesex.
75	1889, Feb. 11	HERRING, WILLIAM ARTHUR WARWICK	62, Coleman Street, E.C.
35	1888, Jan. 9	HESKETT, WILLIAM JAMES. .	24, King Street, Penrith, Cumberland.
15	1890, Feb. 10	HICKMAN, THOMAS	Leaton, near Shrewsbury.
77	1891, May 23	HICKSON, STEPHEN WESTBY . .	2, King Street, Cheapside, E.C.
65	1884, Jan. 28	HIGGINS, FREDERIC	Alford, Lincolnshire.
74	A. '89, Dec. 9 / F. '91, May 25	*HIGGINS, GEORGE	12, Finchley Road, St. John's Wood, N.W.
71	1891, Nov. 4	HILL, SAMUEL	16, Russell Square, W.C.
78	1891, May 23	HILL, THOMAS NELSON . . .	140, Bath Street, Glasgow.
11	1886, Mar. 22	HILL, WILLIAM BURROUGH .	62, Above Bar, Southampton, Hants.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
220	1870, Jan. 10	HILLIARD, GEORGE BRIDGE .	Chelmsford, Essex.
1303	A. '86, Jan. 25 / F. '90, Mar. 24	HILLIARD, GEORGE EDWARD .	Chelmsford, Essex.
1388	1887, Apr. 18	HILTON, JOHN	33, Walbrook, E.C., and 17, Montpelier Row Blackheath.
2079	1891, May 23	HINCKS, HENRY THORP . .	Glen Parva Manor, Blaby, Leicester.
2272	1891, Nov. 4	HINDLE, JOHN	24, Bank Street, Bradford.
2273	1891, Nov. 4	HINDS, HENRY	57, Queen Street, Ramsgate.
671	A. 1881, Dec. 19 / F. 1883, Nov. 12	HINE, GEORGE ERNEST . . .	5, Waterloo Place, S.W.
900	1883, Feb. 26	HINE, GEORGE THOMAS . .	35, Parliament Street, S.W., and Victoria Street Nottingham.
70	1868, Jul. 13	HIPPISLEY, EDWIN	12, Chamberlain Street, Wells, Somerset.
1782	1890, Apr. 14	HIPPISLEY, EDWIN MAGGS . .	12, Chamberlain Street, Wells, Somerset.
1783	1890, Apr. 14	HIPPISLEY, WILLIAM JOHN . .	12, Chamberlain Street, Wells, Somerset.
815	1882, May 22	HITCHCOX, WILLIAM . . .	Victoria Chambers, Newport, Monmouthshire.
1769	1890, Mar. 24	HOBBS, JOHN.	Guinea Hall, Sellinge, near Hythe, Kent.
518	1878, Dec. 9	HOBGEN, FRANCIS NEALE . .	East Street, Chichester.
2080	1891, May 23	HOBGEN, THOMAS CECIL . .	East Street, Chichester.
888	1883, Feb. 12	HOBSON, FREDERICK WILLIAM .	79, Coleman Street, E.C.
2008	1891, Mar. 14	HOBSON, HARRY	Swinefleet, near Goole, Yorkshire.
1552	A. '89, Jan. 14 / F. '89, Nov. 25	*HODGE, LEONARD PERCIVAL .	Office of Public Works, Jamaica, and Nutfield Crescent Road, Norbiton, Surrey.
2274	1891, Nov. 4	HODGSON, ARTHUR MARRIOTT .	4, Albion Place, Southampton.
519	1878, Dec. 9	HODSON, GEORGE	Loughborough, and Abbey Buildings, Princes Street, Westminster, S.W.
2275	1891, Nov. 4	HODSON, WILLIAM	7, Finsbury Square, E.C.
2081	1891, May 23	HOGGARTH, ARTHUR. . . .	Kendal, Westmoreland.
2082	1891, May 23	HOGGARTH, EDWIN	69, Highgate, Kendal, Westmoreland.
793	1882, Apr. 24	HOLBECHE, ROBERT NEVILLE .	21, Bennett's Hill, Birmingham.
2083	1891, May 23	HOLCOMBE, JAMES JOHN . .	The Fawns, Ermington, Devon.
1813	1890, May 29	HOLCOMBE, WALTER . . .	30, Orchard Street, Portman Square, W.
357	1874, Nov. 16	HOLDEN, JOHN	64, Cross Street, Manchester.
2276	1891, Nov. 4	HOLDSWORTH, FREDERICK HENRY	91, Billiter Buildings, Billiter Street, E.C.
1155	1884, May 5	HOLIDAY, FREDERICK DEAN .	Bicester, Oxfordshire.
893	A. '83, Feb. 12 / F. '89, Nov. 11	HOLLAND, THOMAS JAMES, JUN.	3, Little George Street, S.W.
2277	1891, Nov. 4	HOLLINGSWORTH, ARTHUR AUGUSTUS	27, Leadenhall Street, E.C.
2278	1891, Nov. 4	HOLLOWAY, HARRY HOWNAM .	Market Harborough.
1770	1890, Mar. 24	HOLLOWAY, THOMAS . . .	Chippenham, Wilts.
2279	1891, Nov. 4	HOLMAN, GEORGE EDWARD . .	109, Bow Road, E.
1272	1885, Nov. 9	HOLME, JOHN	Owlet Ash, Milnthorpe, Westmoreland.
693	1882, Jan. 16	HOLMES, JAMES	23, Delamere Street, Ashton-under-Lyne.
2009	1891, Mar. 14	HOLMES, MONTAGU	33, Paternoster Row, E.C.
2280	1891, Nov. 4	HOLT, GEORGE HENRY . . .	10, Richmond Terrace, Blackburn.
2281	1891, Nov. 4	HOMAN, FRANKLIN GEORGE . .	147, Eastgate, Rochester, Kent.

No.	Date of Election and of Transfer.	FELLOWS.	
1	1890, Feb. 24	HONEYBALL, FRED THOMAS.	Deal, Kent.
4	1891, May 23	HOOD, HON. VICTOR ALBERT NELSON.	12, Wimpole Street, W.
7	A. '84, Feb. 11 F. '89, Jan. 28	HOPE, WILLIAM ELLIOTT	7, East India Avenue, Leadenhall Street, E.C.
4	1889, Dec. 9	HOPKINS, ALFRED JAMES	27, Mortimer Street, Cavendish Square, W.
2	1891, Nov. 4	HOPKINSON, ALFRED	Castle Chambers, Bury, Lancashire.
0	1891, Mar. 14	HORNE, EDMUND.	High Street, Hounslow, Middlesex.
4	1882, Apr. 24	*HORNE, WILLIAM EDGAR	84, Basinghall Street, E.C., and 17, Great George Street, S.W.
0	1887, May 9	HORNOR, CHARLES JARED	32, Prince of Wales' Road, Norwich.
1	1887, May 9	HORNOR, FRANCIS	Queen Street, Norwich.
1	1891, Mar. 14	HORNSBY, ROBERT	Estate Office, Hovingham, York.
5	1885, Dec. 7	HORSEY, FREDERICK	11, Billiter Square, E.C.
6	1890, May 29	HORSEY, FREDERICK JOHN TERRY	11, Billiter Square, E.C.
4	1869, Feb. 22	HORSFALL, RICHARD (*Member of Council*)	Post Office Buildings, George Street, Halifax, Yorkshire.
1	1891, Mar. 10	HORSFALL, RICHARD EDGAR	Post Office Buildings, George Street, Halifax.
3	1891, Nov. 4	HORSFIELD, J. NIXON	20, Market Place, Kingston-on-Thames.
4	1891, Nov. 4	HOUGHTON, FREDERICK	58, Old Broad Street, E.C.
5	1891, Nov. 4	HOUGHTON, JOHN POUNDS	26, The Avenue, Kew.
0	1891, Jan. 17	HOUGHTON, WILLIAM	58, Old Broad Street, E.C.
7	1889, Feb. 25	HOVENDEN, HENRY EDWARD	30, Bishopsgate Street Without, E.C.
6	1891, Nov. 4	HOWARD, ALFRED	4, Prince's Road, Lewisham, S.E.
5	1891, May 23	HOWARD, HARRY	17, Clifton Road, Littlehampton.
1	A. '69, Feb. 8 F. '83, Mar. 12	HUBBERSTY, HENRY ALFRED	Buxton, Derbyshire.
6	1883, Apr. 30	HUDSON, ARTHUR BYRNE	17, Godliman Street, E.C.
6	1891, May 23	HUDSON, EDWARD WILLIAM	76, Fellows Road, N.W., and Hove, Sussex.
8	1884, Mar. 10	HUDSON, JAMES	Penrith, Cumberland.
9	1889, Mar. 18	HUGMAN, CHARLES EADY	9, Craig's Court, Charing Cross, S.W.
6	1882, Mar. 13	HULL, CHARLES	Euston Station, London, N.W.
5	1869, Feb. 22	HUMPHREYS, CHARLES	6, Crosby Square, Bishopsgate Street Within, E.C.
7	1881, Dec. 5	HUMPHREYS, HENRY	Woodhouse, Loughborough, Leicestershire.
7	1891, May 23	HUMPHREYS, JOHN HENRY	Woodhouse, Loughborough, Leicestershire.
8	1891, May 23	HUNT, FREDERICK COPE	9, Cowley Street, Westminster, S.W.
7	1891, Nov. 4	HUNT, FREDERICK WILLIAM H.	30, York Place, Portman Square, W.
3	1874, May 11	HUNT, HENRY ARTHUR	45, Parliament Street, S.W.
1	1869, Mar. 8	HUNT, JOSIAH	6, Queen Anne's Gate, S.W.
9	1891, May 23	HUNT, THOMAS	Baldock Street, Ware, Herts.
1	1891, Jan. 17	HUNTER, CECIL	51, Denbigh Street, S.W.
2	1890, Mar. 10	HUNTER, WILLIAM HAVARD	8, Queen Anne's Gate, S.W., and Briton Ferry House, Briton Ferry, South Wales.
8	1891, Nov. 4	HURRELL, JOHN WEYMOUTH	25, Brazennose Street, Manchester.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
1016	A. '83, Dec. 19 / F. '91, Jan. 5	HUSKINSON, THOMAS WILLIAM .	Epperstone Manor, Nottingham.
326	1874, Jan. 19	HUSKINSON, WILLIAM LAMBE .	The Manor House, Epperstone, Nottingham.
1220	1884, Dec. 8	HUSSEY, FRANK TOOZE . . .	Brereton Rugeley, Staffordshire.
1182	A. '84, May 19 / F. '89 Dec. 9	HUSSEY, ROBERT.	Newborough, near Burton-upon-Trent, Staffordshire.
1477	1888 Apr. 16	HUXLEY, WALTER FREEMAN .	29, John Street, Bedford Row, W.C.
563	1880, Jan 19	I'ANSON, EDWARD BLAKEWAY .	7A, Laurence Pountney Hill, E.C.
1137	1884, Apr. 21	INGE, CHARLES HENRY . . .	Broom Leasoe, Whittington, Lichfield.
851	A. '82, Dec. 18 / F. '91, Aug. 4	INGRAM, HENRY LAW . . .	16, Whitehall Place, S.W.
305	A. '73, Feb. 10 / F. '82, Jan. 16	INGRAM, WALTER FIELDE . .	83, High Street, Lewes, Sussex.
2289	1891, Nov. 4	INKPEN, GEORGE CHARLES . .	Victoria Road North, Southsea.
834	1882, Dec. 18	INMAN, MARSHALL NISBET . .	7, Bedford Row, W.C.
2290	1891, Nov. 4	INMAN, WILLIAM NUTTER . .	126, Maida Vale, W.
835	1882, Dec. 18	INNOCENT, CHARLES JOHN . .	Sheffield.
2291	1891, Nov. 4	IRELAND, EDWIN BENJAMIN .	Guestwick, East Dereham, Norfolk.
1942	1891, Jan. 17	JACKSON, BENJAMIN WHITEHEAD	George Street, Halifax.
570	1880, Feb. 16	JACKSON, CHARLES	23, Brazennose Street, Manchester.
209	1869, Jul. 26	JACKSON, FREDERICK. . . .	Nottingham.
2292	1891, Nov. 4	JACKSON, FREDERICK WILLIAM .	18, Low Pavement, Nottingham.
1943	1891, Jan. 17	JACKSON, SAMUEL	33, Kirkgate, Bradford.
1404	1887, Dec. 19	JACKSON, WILLIAM TRESS . .	117, High Street, Sittingbourne.
2293	1891, Nov. 4	JAMES, CHRISTIAN HUGH . .	Rudchester, Wylam-on-Tyne.
1302	1886, Jan. 25	JEANS, MARK.	Marlborough, Wilts.
2294	1891, Nov. 4	JENKINS, OSWALD	57, Colmore Row, Birmingham.
736	1882, Feb. 13	JENKINSON, WILLIAM WILBERFORCE	6, Moorgate Street, E.C.
2012	1891, Mar. 14	JENNINGS, WILLIAM JOSEPH .	4, St. Margaret's Street, Canterbury, Kent.
992	1883, Dec. 17	JEUDWINE, WILLIAM WYNNE .	Chesterfield.
2295	1891, Nov. 4	JOHNSON, CHARLES HAYWOOD .	1, St. James' Street, Sheffield.
963	A. '83, May 25 / F. '85, Jan. 26	*JOHNSON, HENRY	35, Coleman Street, E.C.
2296	1891, Nov. 4	JOLLY, JOHN HAWKINS . . .	27, East Mount Road, York.
1463	A. '88, Feb. 20 / F. '91, May 25	*JONAS, HARRY MARSHALL . .	Brooklands Avenue, Cambridge.
195	A. '69, Apr. 5 / F. '78, Feb. 25	JONAS, HENRY	4, Whitehall, S.W.
95	1868, Jul. 27	JONAS, JOHN CARTER . . .	27, Market Hill, Cambridge.
1265	1885, Apr. 20	JONES, CHARLES	Normanhurst, Ealing.
777	1882, Mar. 13	JONES, CHARLES FREDERICK .	Eldon Chambers, 30, Fleet Street, E.C.
1703	1890, Jan. 27	JONES, FRANCIS WILLIAM . .	Ascot, near Wallingford, Berks.
1619	A. '89, Apr. 1 / F. '91, Dec. 7	*JONES, FREDERICK HERBERT .	25, Parliament Street, S.W., and 35, The Broadway, Ealing, W.
964	A. '83, May 25 / F. '86, Dec. 6	*†JONES, HENRY ARTHUR . .	11, Wellington Street, Strand, W.C.
308	1873, Apr. 21	JONES, HENRY PARR . . .	Portway House, Warminster.

† Special Sanitary Science Certificate, 1892.

No.	Date of Election and of Transfer.	FELLOWS.	
19	1890, Nov. 22	JONES, ISAAC MATTHEWS . .	The Town Hall, Chester.
16	1881, Dec. 19	JONES, JAMES WILLIAM . . .	54, Caledonian Road, Leeds.
73	A. '81, Dec. 19; F. '91, May 25	JONES, THOMAS	15, Great George Street, S.W.
19	1887, Jan. 10	JONES, WALTER BUTLER CLOUGH	Mynydd, Ednyfed, Criccieth, North Wales.
13	1891, Mar. 14	JONES, WILLIAM EDWARD . .	Anglesey Estate Office, Graig, Llanfair, Anglesey.
07	1891, Nov. 4	JOPLING, JOSEPH	Temple Chambers, Temple Avenue, E.C.
08	1891, Nov. 4	JOSELAND, CHARLES	Bank Buildings, Kidderminster.
67	1888, Mar. 5	JOSEPH, DELISSA.	17 and 18, Basinghall Street, E.C.
06	1884, Feb. 25	JOYCE, JOHN HALL	Blackfordby, near Burton-on-Trent.
14	1891, Mar. 14	JOYNT, GEORGE LAWRENCE . .	Ballina, Co. Mayo, Ireland.
93	1883, Dec. 17	JURD, WILLIAM	10, Oxford Street, Southampton.
12	A. '75, Dec. 11; F. '87, Mar. 23	KAYE, JOHN EDWARD . . .	Bretton Lodge, Wakefield, Yorkshire.
90	1884, May 26	KEDGLEY, CHARLES	Hibernia Chambers, London Bridge, S.E.
80	1880, Nov. 8	KEIRLE, ROBERT	Suffolk House, Laurence Pountney Hill, E.C.
075	1883, Nov. 12	KEMSLEY, JOSEPH WILLIAM . .	Woodford, Essex.
16	1890, Feb. 10	KENNEDY, JAMES.	31, Great James Street, Bedford Row, W.C.
191	1884, May 26	KENT, GEORGE EDWARD . .	"Normanhurst," Cavendish Road, Southsea, Hants.
299	1891, Nov. 4	KENWRICK, GEORGE . . .	83, Colmore Row, Birmingham.
300	1891, Nov. 4	KERL, WILLIAM JAMES . . .	Vescour, Penshurst, Kent, and 4, Old Jewry, E.C.
514	1889, Apr. 1	KERSEY, ALEXANDER HENRY .	21, Finsbury Pavement, E.C.
350	1890, Nov. 22	KIDWELL, JOHN	St. Margaret's Bank, Rochester, Kent.
125	A. '84, Mar. 10; F. '88, Dec. 10	*KING, ALFRED	6, Spring Gardens, S.W.
873	1883, Jan. 29	KING, FRANK HULME . .	Horsham, Sussex.
192	1884, May 26	KING, HENRY	Stourbridge, Worcestershire.
301	1891, Nov. 4	KING, JOHN BUSBY	Albert Park, Abingdon, Berks.
193	1884, May 26	KING, THOMAS	Pembroke House, Portsmouth, Hants.
191	1869, Mar. 22	KING, SIR WILLIAM DAVID, D.L.	Stratford Lodge, Southsea, Hants.
808	1882, May 8	KINGSTON, SAMUEL	Spalding, Lincoln.
502	1888, Nov. 26	KIRBY, EDMUND	5, Cook Street, Liverpool.
302	1891, Nov. 4	KIRKBY, HERBERT	Lythe Hall, near Whitby.
303	1891, Nov. 4	KITTOW, JOHN	West Holm, Launceston.
487	1892, Feb. 26	KNIGHT, EDGAR WALSH. . .	29, John Street, Bedford Row, W.C.
853	A. '82, Dec. 18; F. '89, Dec. 9	KNOWLES, HENRY	Wotton, Gloucester.
304	1891, Nov. 4	KOCH, JOHN GODFREY . . .	Revenue Survey Department, Penang, Straits Settlements, and 11, Palace Road, Upper Norwood, S.E.
305	1891, Nov. 4	LACEY, JOHN TURK	10, Buckingham Street, Strand, W.C.
306	1891, Nov. 4	LAING, JOHN	20, Bridge Street, Glasgow.
1553	A. '89, Jan. 14; F. '91, Dec 7	*LAMBERT, GODFREY CHARLES .	27, Chancery Lane, W.C.
107	1868, Aug. 3	LAMBERT, WILLIAM	49, Finsbury Pavement, E.C.

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2307	1891, Nov. 4	Lammie, George	138, Hope Street, Glasgow.
1398	1887, Dec. 5	Lancaster, Charles Holland	York Buildings, 14, Dale Street, Liverpool.
446	1876, Apr. 24	Lane, Cecil Newton . . .	Whiston Hall, Shifnal, Salop.
2090	1891, May 23	Lane, Ernest Lacan . .	Richmond Chambers, Bournemouth.
1688	1890, Jan. 6	Lang, Charles Augustus .	3, King Street, Cheapside, E.C.
762	1882, Feb. 27	Langridge, George. . . .	Public Rooms, Tunbridge Wells, Kent.
1514	1888, Dec. 10	Langridge, William . . .	The Great Hall, Tunbridge Wells, Kent.
600	1881, Jan. 24	Lansdown, George	5 & 7, Warwick Street, Charing Cross, S.W.
1645	1889, Dec. 9	Larmuth, George Horatio .	Wilton Chambers, 10, St. Ann's Square, Manchester.
2015	1891, Mar. 14	Latter, Hugh Robinson . .	3, Market Square, Bromley, Kent.
145	1868, Nov. 9	Laurance, John	Sexton Barns, Peterboro'.
1089	1884, Feb 11	Law, Edmund	29, Abington Street, Northampton.
1717	1890, Feb. 10	Lawford, William Robinson .	Underhill, Oswestry.
2091	1891, May 23	Lawrance, Walter	8, Delahay Street, S.W.
1944	1891, Jan. 17	Lawrence, Arthur	Great Marlow, Bucks.
2308	1891, Nov. 4	Lawrence, Peter	50, Frederick Street, Edinburgh.
1019	A. '83, Dec. 17 / F. '89, Nov. 11	Lawrence, William Robert .	57 & 58, Chancery Lane, W.C.
2309	1891, Nov. 4	Lawton, Charles Henry John Victor	St. Helen's Chambers, Davygate, York.
513	1878, Nov. 11	Leane, George Henry . .	21, Queen Anne's Gate, S.W.
1461	1888, Feb. 20	Leaning, John	11, Poultry, E.C.
60	A. '68, July 6 / F. '82, May 8	Lee, Charles Williams . .	63, Lincoln's Inn Fields, W.C.
332	1874, Feb. 2	Lee, Frederick.	6, Great College Street, S.W.
1610	1889, Mar. 18	Lee, Philip Shirling . . .	35, Craven Street, W.C., and Oaklands, Woodford, Essex.
2092	1891, May 23	Lee, Sydney Williams. . .	63, Lincoln's Inn Fields, W.C.
1090	1884, Feb. 11	Lee, William	143½, High Street, Guildford, Surrey.
229	1870, Feb. 7	Lees, John	Reigate, Surrey.
2016	1891, Mar. 14	Legard, Digby Charles . .	Tealby, Market Rasen, Lincolnshire.
836	1882, Dec. 18	Lemon, James	Southampton.
675	A. 81, Dec. 19 / F. '89, Mar. 18	Leonard, Henry Holmes . .	202, Bishopsgate Street Without, E.C
717	1882, Jan. 30	Lepper, John Harrage . .	Town Hall, Bromley, Kent.
1156	1884, May 5	Le Rossignol, Francis . .	1, Gresham Buildings, Basinghall Street, E.C.
1176	1884, May 19	Lethbridge, Walter . . .	1, Leigham Villas, Plymouth.
1945	1891, Jan. 17	Letts, Thomas Hollins . .	185, Earl's Court Road, S.W.
647	1881, Dec. 19	Lightfoot, Francis Lowry .	3, Old Palace Yard, S.W.
901	1883, Feb. 26	Lightfoot, Henry Le Blanc	Lower Lawn, Tisbury, Salisbury.
1646	1889, Dec. 9	Linaker, Charles Edward .	Frodsham, Cheshire.
1361	1887, Jan. 24	Lines, Richard Samuel . .	103, Hammersmith Road, W.
1405	1887, Dec. 19	Lister-Kaye, Charles Wilkinson	Osberton, Worksop, Notts.
2310	1891, Nov. 4	Little, William	Hutton Hall, Penrith.

	Date of Election and of Transfer.	FELLOWS.	
7	1882, Feb. 13	Little, William Cutlack . .	Stag's Holt, March, Cambridgeshire.
9	A. '83, May 21 / F. '88, Apr. 16	Little, William Davis . .	Middleton Stoney, Bicester, Oxon.
1	1891, Nov. 4	Littlewood, Lionel . . .	9, Great James Street, Bedford Row, W.C.
2	1891, Nov. 4	Livesay, John Gillett. . .	Cromartie House, Ventnor, Isle of Wight.
3	1891, May 23	Llewellin, David Morgan .	Glanwern Offices, Pontypool.
3	1892. Feb. 26	Lloyd, George Hamilton. .	Rhayader, Radnorshire.
3	1881, Dec. 19	Lock, William Henry . . .	Instow, North Devon.
1	1891, May 23	Lockyer, Gilbert Edward .	12, Southampton Street, Fitzroy Square, W.
3	1891, Nov. 4	Lofthouse, Roger	62, Albert Road, Middlesbrough-on-Tees.
3	1875, Mar. 15	Lofts, Henry	130, Mount Street, Grosvenor Square, W.
1	A. '84, May 5 / F. '91, June 29	Lofts, Henry Fairlam . .	130, Mount Street, W.
3	1884, Apr. 21	Looker, John	High Street, Huntingdon.
1	1891, Nov. 4	Loring, John	Hinstock, Market Drayton.
5	1887, Nov. 14	Lovegrove, Henry	26, Budge Row, E.C.
1	1876, Feb. 7	Lovejoy, Alfred	35, Bucklersbury, E.C.
1	1890, May 29	Loveys, Arthur Clampitt. .	Moretonhampstead, Devon.
5	A. '84, Mar. 10 / F. '91, Feb. 16	Low, Robert John	49, Finsbury Pavement, and St. Alban's, Herts.
8	1882, Feb. 13	Lowe, Charles Harlowe . .	Hampstead Vestry Hall, Haverstock Hill, N.W.
8	1889, Dec. 9	Lucas, William Edward . .	Bexley, Kent.
2	1890, Feb. 24	Ludlow, Walter Robert . .	18, New Street, Birmingham.
5	1891, May 23	Lynam, Charles	Stoke-on-Trent.
1	A. '83, Apr. 2 / F. '89, Nov. 11	Lyster, Thomas Rice Somerville	Bedford Office, Thorney, Peterborough.
3	1890, Feb. 24	Lywood, Edwin	Norman Court, Clatford, Andover, Hants.
5	1876, Feb. 7	McCall, George	33, Victoria Chambers, Market Place, Blackburn.
5	1891, Nov. 4	MacCallum, Alexander Duncan	63 & 64, New Broad Street, E.C., and Romford, Essex.
	1891, Nov. 4	McCallum, James Braddon .	6, Leamington Street, and Municipal Offices, Blackburn.
3	1891, Nov. 4	McCracken, William . . .	Crewe.
	1891, May 23	MacDougall, Robert . . .	69, Renfield Street, Glasgow.
	1891, Nov. 4	McIntyre, Peter	Gwydyr Ucha, Llanrwst, North Wales.
	1889, Apr. 1	MacIver, Colin	23, Bold Street, Warrington.
	1891, Nov. 4	McKie, Hugh Unsworth . .	11, Victoria Street, S.W.
	1891, Nov. 4	Mackintosh, Charles John Maclean	Dunoon, Argyleshire.
	1889, Apr. 29	McLean, Donald	Dunrobin Estate Office, Golspie, Sutherlandshire.
	1891, Nov. 4	Madge, John.	Hope End Estate Office, Ledbury, Herefordshire.
	1891, Nov. 4	Mallett, William Robert .	35, Great St. Helen's, E.C.
	1869, Jan. 25	Mann, Charles John . . .	29, Great George Street, S.W.
	1891, Nov. 4	Mann, Jabez	Sevenoaks, Kent.
	1890, Apr. 14	Mann, James Bagshaw. . .	12, Lower Grosvenor Place, S.W.

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373	1875, Jan. 18	MANN, ROBERT WILKS . . .	12, Lower Grosvenor Place, S.W.
1946	1891, Jan. 17	MANNERS, HENRY ALFRED . .	Buckminster Park, near Grantham.
1616	1889, Apr. 1	MARGERESON, CHARLES FREDERIC	New Square, Chesterfield.
1362	1887, Jan. 24	MARGETTS, JOHN WILLIAM . .	12, High Street, Warwick.
1947	1891, Jan. 17	MARKS, HYMAN	19, Ludgate Hill, E.C.
192	1869, Mar. 22	MARR, JAMES	8, Adam Street. Adelphi. W.C.
470	A. '77, Jan. 15 / F. '89, Dec. 9	MARRIOTT, GEORGE WHARTON .	35, Brompton Crescent, S.W.
626	A. '81, Nov. 14 / F. '84, Nov. 24	MARSHALL, LIONEL HASLER .	Chippenham, Wilts.
1785	1890, Apr. 14	MARSHALL, PETER	8, George Street, Sheffield.
2097	1891, May 23	MARSON, THOMAS	Higham, Hinckley, and Leicester.
976	1883, Nov. 12	MARTIN, GEORGE DENNIS . .	124-127, Mansion House Chambers, E.C.
434	1876, Mar. 20	MARTIN, GILSON	Chatsworth, Chesterfield.
364	1875, Jan. 4	MARTIN, HOWARD	27, Chancery Lane, W.C., and Bolney Gran Havelock Road, Croydon.
649	1889, Dec. 9	MARTIN, ROBERT FREWEN . .	Mountsorrel, Loughborough.
704	A. '82, Jan. 16 / F. '84, Jan. 28	MARTIN, WALTER	Wainfleet, Lincolnshire.
1589	1889, Feb. 25	MARVIN, ALBERT EDWARD . .	Mare Hill, Carisbrooke, Isle of Wight.
1598	1889, Mar. 4	MASON, CHARLES.	Westgate, Louth, Lincolnshire.
1091	1884, Feb. 11	MASON, WILLIAM ARTHUR . .	31A, Colmore Row, Birmingham.
1288	A. '85, Dec. 7 / F. '88, Nov. 12	*MASSIE, FRANK	Tetley House, Kirkgate, Wakefield.
696	1882, Jan. 16	MASTERMAN, GEORGE HUGHES .	35, Coleman Street, E.C.
994	1883, Dec. 17	MATHEWS, GEORGE SPENCER .	15, Waterloo Street, Birmingham.
995	1883, Dec. 17	MATHEWS, JOSEPH DOUGLAS .	11, Dowgate Hill, E.C.
39	1868, Jun. 15	MATHEWS, WILLIAM . . (*Member of Council*)	15, Waterloo Street, Birmingham.
1066	1884, Jan. 28	MATTHEWS, WILLIAM . .	8, Delahay Street, S.W.
1399	1887, Dec. 5	MAUDE, RAYMOND WILLIAM. .	17, South Street, Manchester Square, W.
1356	A. '87, Jan. 10 / F. '90, Jan. 6	*MAXWELL, FRANCIS WILLIAM	29, Princess Street, Manchester.
1630	1889, Nov. 25	MAXWELL, JAMES	29, Princess Street, Manchester.
2320	1891, Nov. 4	MAY, THOMAS HENRY . . .	6, Times Buildings, Bow Street, Sheffield.
718	1882, Jan. 30	MAYLARD, CHARLES GRASON .	6, Great Queen Street, S.W.
837	1882, Dec. 18	MAYNARD, EDWARD	College Chambers, The Green, Richmond, Sur
1948	1891, Jan. 17	MEADE, THOMAS DE COURCY . .	1, Park Villas, The Park, Highgate, N.
2098	1891, May 23	MELLER, WILLIAM GALLOWAY .	22, Cooper Street, Manchester.
552	1879, Dec. 8	MELLERSH, ALFRED WILLIAM .	Godalming, Surrey.
1949	1891, Jan. 17	MELLOR, THOMAS HENRY . .	110, St. James' Street, Brighton.
1379	1887, Mar. 7	MENZIES, WILLIAM	Surbiton House, Englefield Green, Surrey.
2099	1891, May 23	MERRY, THOMAS	2, Guildhall Road, Northampton.
764	1882, Feb. 27	MESSENGER, WILLIAM HARRY .	Hullbrook, Guildford, Surrey.
1223	1884, Dec. 8	*‡MICHELMORE, ALFRED. . .	Berry Pomeroy Estate Office, Totnes, Devon
1493	1888, Nov. 12	MIDDLETON, REGINALD EMPSON	17, Victoria Street, S.W.
2325	1891, Nov. 4	MIGOTTI, ALPHONZO	4, Great George's Mansions, Red Lion Sq W.C.

‡ Special Forestry Certificate, 1890.

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568	1889, Jan. 28	MILES, WILLIAM FREDERICK .	37, Friar Lane, Leicester.
597	1882. Jan. 16	MILLAR, CHARLES WILLIAM . .	14, Grafton Street, W.
326	1891, Nov. 4	MILLAR, WILLIAM GALT . .	10, High Street, Reading.
327	1891, Nov. 4	MILLARD, EDWARD . . .	39, Old Broad Street, E.C.
177	1884, May 19	MILLS SAMUEL MEALING . .	Orford Hill, Norwich.
305	1886, Feb. 22	MILLS, WILLIAM EDWARD . .	49, Hamilton Square, Birkenhead.
121	A. '87, Dec. 19 / F. '89, Nov. 11	*MILLWARD, ISAAC	Office of Public Works, Dublin.
328	1891, Nov. 4	MILLYARD, JOHN WILLIAM . .	Estate Office, Saltmarshe Castle, Bromyard.
950	1891, Jan. 17	MILNES, ELI	99, Swan Arcade, Bradford.
177	1877, Feb. 12	MINTER, WILLIAM	81, Boudgate, Darlington.
329	1891, Nov. 4	MITCHELL-WITHERS, JOHN BRIGHTMORE	Surrey Street, Sheffield.
332	A. '84, Dec. 8 / F. '90, Nov. 10	*MIXER, EDWARD	44, Charing Cross, S.W.
718	1890. Feb. 10	MONCKTON, HENRY PERCIVAL .	32, Walbrook, E.C.
330	1891, Nov. 4	MONIER-WILLIAMS, STANLEY FAITHFULL	8, Laurence Pountney Hill, Cannon Street, E.C.
951	1891, Jan. 17	MONTAGU, HENRY HAVELOCK .	36, Coleman Street, E.C.
771	1890, Mar. 24	MOODY, THOMAS	35, Craven Street, Strand, W.C.
776	1889, Feb. 11	MOORE, ALFRED	144, Mile End Road, E.
000	1891, May 23	MOORE, ALGERNON	Bridge Road, East Molesey, Surrey.
577	1889, Feb. 11	MOORE, FREDERIC	144, Mile End Road, E., and Houston House, Worthing, Sussex.
165	A. '84, May 5 / F. '88, May 14	*MOORE, HAROLD EDWARD . .	41, Bedford Row, W.C., and Head Gate Court, Colchester, Essex.
331	1891, Nov. 4	MORGAN, BENJAMIN BRAUFORD .	Bank Chambers, Norwich.
772	1890, Mar. 24	MORRIS, CHARLES	The Lodge, Radcliffe-on-Trent, Notts, and 27, Bridlesmith Gate, Nottingham.
143	1888, Jan. 23	MORRIS, EDWARD HENRY . .	Chirbury, Salop.
001	1891, May 23	MORRIS, GEORGE FIELD . .	67 and 68, Cheapside, E.C.
332	1891, Nov. 4	MORRIS, HAROLD GEORGE . .	67 and 68, Cheapside, E.C.
119	1884, Mar. 10	MORRIS, HERBERT	Lewes, Sussex.
227	A. '84, Mar. 10 / F. '91, Jan. 5	MOSS, THOMAS WALTER . . .	7, Gray's Inn Place, Gray's Inn, W.C.
965	A. '83, May 25 / F. '91, Oct. 15	MOYES, JOHN HELENUS . .	26, Trinity Street, Cambridge.
145	A. '91, May 23 / F. '92, May 30	*MÜLLER, JOHN JOSEPH . . .	41, Archway Road, Highgate, N.
778	1882. Mar. 13	MULLETT, FREDERICK AUGUSTUS	Albion House, Hyde Park Square, W.
017	1891, Mar. 14	MUNDY, HERBERT	Manvers Street, Trowbridge, Wilts.
334	1891, Nov. 4	MUNDY, THOMAS EDWARD . .	12, Buckingham Street, Adelphi, W.C.
335	1891, Nov. 4	MUNRO, DANIEL	39, Hope Street, Glasgow.
965	1882, Feb. 27	MUNRO, PHILIP	2, St. Stephen's Chambers, New Baldwin Street, Bristol.
990	1889, Feb. 25	MURGATROYD, JAMES	23, Strutt Street, Manchester.
006	1887, Dec. 19	MURRAY, GILBERT	Elvaston Estate Office, Derby.
152	1891, Jan. 17	MURRAY, WILLIAM	21, Surrey Street, W.C.

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1166	A. '84, May 5 / F. '89, Nov. 11	MYLNE, WILLIAM JOHN HOME,	Sabrina, Clevedon Road, Weston-super-Mare.
809	1882, May 8	MYNORS, WALTER CHARLES TOWERS	Little Ingestre, Stafford.
2336	1891, Nov. 4	MYRES, JOHN JAMES	15, Chapel Street, Preston.
1591	1889, Feb. 25	NAPIER, HENRY BURROUGHES .	Chippenham, Wilts.
164	A. '69, Jan. 25 / F. '82, Mar. 13	NASH, ALFRED JAMES . . .	Farnham, Surrey.
139	1868, Nov. 2	NEALE, CHARLES JAMES . .	High Oakham, Mansfield, Notts.
2018	1891, Mar. 14	NEALE, GEORGE JAMES . . .	25, Motcomb Street, Belgrave Square, S.W.
531	1879, Feb. 3	NEAME, FREDERICK	Macknade, Faversham, Kent.
795	1882, Apr. 24	NEATE, ARTHUR WEBB . . .	Albion House, Newbury, Berks, and Hungerfor
1744	1890, Feb. 24	NETHERSOLE, WILLIAM . .	Deal, Kent.
1314	1886, May 3	NEVE, HERBERT	Hole Park, Rolvenden, Kent.
2337	1891, Nov. 4	NEVETT, FRANCIS WALTER . .	41, Fishergate, Preston.
1650	1889, Dec. 9	NEVETT, THOMAS	41, Fishergate, Preston, Lancashire,
2489	1892, Feb. 26	NEVITT, GEORGE	Church Street, Rugeley.
2102	1891, May 23	NEW, EDWARD VORLEY . . .	62, George Street, Portman Square, W
1719	1890, Feb 10	NEWILL, ROBERT HENRY . .	Lydbury North, Shropshire.
1276	1885, Dec. 7	NEWMAN, ARTHUR HARRISON .	19A, Tooley Street, London Bridge, S.E.
856	A. '82, Dec. 18 / F. '89, Nov. 11	NEWMAN, CHARLES HENRY . .	34, Savile Row, W.
289	1872, Dec. 9	NEWMAN, FRANCIS	Ryde, Isle of Wight.
1592	1889, Feb. 25	NEWMAN, GEORGE	25, Billiter Buildings, E.C.
2338	1891, Nov. 4	NEWMAN, THOMAS HARRY . .	Rayne, Essex.
566	A. '80, Jan. 19 / F. '86, Apl. 12	NEWMARCH, HENRY CHARLES .	61, Lincoln's Inn Fields, W.C.
1041	1884, Jan. 14	NEWSAM, SAMUEL WATERHOUSE	3, East Parade, Leeds.
739	1882, Feb. 13	NEWSON, HARRY CARSS . . .	57, Lincoln's Inn Fields, W.C.
1020	A. '83, Dec. 17 / F. '89, Nov. 11	NEWTON, THOMAS EDWIN . .	45, Jewry Street, Winchester.
374	1875, Jan. 18	NICHOLS, DANIEL CUBITT . .	3, Howard Street, Strand, W.C.
1953	1891, Jan. 17	NICHOLSON, ANSELM	55, Parliament Street, S.W.
2339	1891, Nov. 4	NICHOLSON, THOMAS COOKE .	24, Grainger Street West, Newcastle-upon-Tyn
2340	1891, Nov. 4	NICHOLSON, WILLIAM ABERNETHY	29, Queen Street, E.C.
2490	1892, Feb. 26	NOCK, BENJAMIN BOWEN . .	48, Queen Street, Wolverhampton.
401	1875, Apr. 26	NOCKOLDS, MARTIN	Saffron Walden, Essex.
1264	1885, Mar. 23	NOEL, BYRON BRUCE . . .	East Horsley, Leatherhead.
2103	1891, May 23	NORMAN, CECIL MANNERS . .	Huncote House, Leicester.
435	1876, Mar. 20	NORMAN, JAMES MAURICE . .	Uxbridge, Middlesex.
1720	1890, Feb. 10	NORMAN, WILLIAM HORACE .	34, Great George Street, S.W.
502	A. '78, Feb. 11 / F. '90, Mar. 10	NORRIS, WALTER HENRY . .	60, Fore Street, Hertford.
85	1868, Jul. 20	NORTH, GEORGE	Palace Chambers, 9, Bridge Street, S.W.
958	1883, May 25	*NORTH, GEORGE FREDERIC . .	Wroxton Estate Office, near Banbury, Oxon.
1569	1889, Jan. 28	NORTHCROFT, HENRY . . .	57, Charing Cross, S.W.
2019	1891, Mar. 14	NORTON, THOMAS HERBERT .	Park Farm, Woburn, Beds.

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255	1871, Feb. 13	NOTLEY, RICHARD ALBERT . .	80, Cornhill, E.C.
398	1882, Jan. 16	NOTLEY, ROBERT PLEDGE . .	35, Bucklersbury, E.C.
376	A. '81, Dec. 19 / F. '87, Feb. 7	NOTTAGE, WILLIAM GRIGGS .	High Street, Slough, and Windsor.
763	1890, Mar. 10	NUTTALL, THOMAS	12, Market Street, Bury, Lancashire.
59	1868, Jul. 6	OAKLEY, CHRISTOPHER . . . (*Member of Council*)	10, Waterloo Place, S.W.
920	1891, Mar. 14	OAKLEY, EDWARD BENJAMIN .	Nutshaling, Portarlington Road, Bournemouth.
350	1881, Dec. 19	OBORNE, ALFRED WILLIAM . .	9, Moorgate Street, E.C., and Wimbledon Park, Surrey.
468	1888, Mar. 5	OLDROYD, LINLEY	5, Oxford Place, Leeds.
441	1891, Nov. 4	OLIPHANT, GEORGE A. J. . .	Rushford, Christchurch, Hants.
442	1891, Nov. 4	OLIVER, CHARLES EDWARD . .	Blackhill, Co. Durham.
006	1886, Feb. 22	ORGILL, JOHN BERWICK . .	21, Hart Street, Bloomsbury Square, W.C.
443	1891, Nov. 4	ORR, CECIL	2, Prince's Mansions, Victoria Street, S.W.
451	1890, Nov. 22	OSMOND, EDWARD	Oakford, Upton Pyne, Devon.
221	1890, Feb. 10	OWEN, HENRY	Dana Chambers, Shrewsbury.
444	1891, Nov. 4	OWEN, RICHARD NEWSHAM . .	Haughton, Tarporley.
998	A. 84, Feb. 11 / F. '90, Jan. 6	OWEN, THOMAS HENRY . . .	High Street, Haverfordwest, Pembrokeshire.
883	1869, Mar. 8	OWEN, THOMAS RULE . . .	High Street, Haverfordwest, Pembrokeshire.
928	1889, Nov. 11	OWEN, WILLIAM SCOTT. . .	Cefngwifed, near Newtown, Montgomeryshire.
921	1891, Mar. 14	PAGE, GEORGE FREDERICK . .	Eagle Chambers, Kingston-on-Thames.
442	1884, Jan. 14	PAGE, ROBERT	9, Denman Street, London Bridge, S.E.
006	A. '75, Nov. 8 / F. '81, April 4	PAIN, COARD SQUAREY . . .	14, North John Street, Liverpool, and 5, Victoria Street, Westminster, S.W.
445	1891, Nov. 4	PAIN, WILLIAM	63, Lincoln's Inn Fields, W.C.
446	1891, Nov. 4	PAINE, EDWARD JABEZ . . .	11, Great James Street, Bedford Row, W.C.
447	1891, Nov. 4	PAISLEY, JOSEPH	Waresley, Sandy, Bedfordshire.
015	1890, May 29	PARK, PHILIP SAMUEL . . .	18, Winckley Street, Preston, Lancashire.
015	1886, May 3	PARK, WILLIAM PHILIP . . .	18, Winckley Street, Preston, Lancashire.
883	1887, Mar. 21	PARKER, CHARLES ALFRED .	43, Finsbury Circus, E.C., and Woodham Mortimer Place, Maldon, Essex.
839	1885, May 18	PARKER, JOHN	Mansion House, Hereford.
918	1891, Nov. 4	PARKER, STANLEY	427, Edgware Road, W.
337	A. '80, Jan. 19 / F. '88, Jan. 9	PARKER, THE HON. CECIL THOMAS	Eccleston, Chester.
752	1890, Nov. 22	PARKER, WILLIAM HENRY . .	3, Foregate Street, Worcester.
928	A. '81, Dec. 5 / F. '84, Nov. 24	PARKIN, JOHN ROBERT . . .	Idridgehay, near Derby.
453	1890, Nov. 22	PARKIN, WILLIAM	Babworth, Retford, Notts.
15	1883, Jan. 15	PARMETER, FRANK	Middle Lees, Clitheroe, Lancashire.
14	1891, May 23	PARNACOTT, ALFRED	The Ferns, Laurel Grove, Penge, S.E.
19	1891, Nov. 4	PARNIE, JAMES	27, Union Street, Glasgow.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
910	1883, Mar. 12	PARR, SAMUEL	New Broad Street House, E.C.
2022	1891, Mar. 14	PARR, SAMUEL GEORGE . . .	New Broad Street House, E.C.
1854	1890, Nov. 22	PARRY, ALBERT WOODWARD .	17, Market Place, Reading.
1422	A. 87, Dec. 19 / F. '91, Mar. 16	*PARRY, RICHARD	21, Parliament Street, S.W.
1503	1888, Nov. 26	PARSONS, FRANK DONISTHORPE .	Misterton, Crewkerne, Somerset, and Tisbur Wilts.
1855	1890, Nov. 22	PARSONS, FREDERICK CECIL .	9, Marine Parade, Brighton,
288	1872, Dec. 9	PARSONS, HENRY.	Misterton, Crewkerne, Somerset.
1764	1890, Mar. 10	PARSONS, HENRY JOHN DONNE.	Bampfylde House, Exeter.
957	A. '83, May 25 / F. '88, Dec. 10	PARSONS, ROBERT MAURICE PETERS.	Misterton, Crewkerne, Somerset.
1745	1890, Feb. 24	PATERSON, CHARLES	Canford Estate Office, Wimborne, Dorsetshire.
601	1881, Jan. 24	PATTISSON, JACOB LUARD, C.B. .	6, Sussex Gardens, Hyde Park, W.
967	A. '83, May 25 / F. '88, May 14	*PAULL, ALAN	6, Quality Court, Chancery Lane, W.C.
1157	1884, May 5	PAXTON, EDWARD HAYTON . .	West Bank, Brixton Hill, S.W.
583	1880, Dec. 13	PAYNE, ALEXANDER	Norfolk House, Victoria Embankment, W.C.
719	1882, Jan. 30	PAYNE, FREDERICK	Town Hall, Bromley, Kent.
2350	1891, Nov. 4	PEARD, JOHN GRIGG . . .	North Curry, near Taunton.
2351	1891, Nov. 4	PEARSE, WILLIAM	Stoliford, Modbury, Devon.
2352	1891, Nov. 4	PEARSON, ALFRED	Estate Offices, Dukinfield.
1363	1887, Jan. 24	PECK, HENRY WILLIAM. . . .	6, Poultry, E.C.
1270	1885, May 18	PECK, WILLIAM ROLAND . . .	1, Cockspur Street, S.W.
2353	1891, Nov. 4	PEIRSON, GEORGE BRODRICK .	Baldersby, Thirsk.
2354	1891, Nov. 4	PEIRSON, HENRY THOMAS . .	Brancepeth, Co. Durham.
2105	1891, May 23	PELLS, ARTHUR	Beccles and Lowestoft.
1651	1889, Dec. 9	PEMBERTON, CHARLES OLIVER PAGET	69, Temple Row, Birmingham.
21	1868, Jun. 15	PENFOLD, JOHN WORNHAM . . *(Honorary Secretary)*	29, Great George Street, S.W.
452	1876, May 8	PEPPERCORN, JOHN HUTCHINSON	Manor House, Eaton Socon, St. Neots.
2355	1891, Nov. 4	PERKINS, JOSEPH	Laughton, Rugby.
1341	A. '86, Dec. 6 / F. '91, May 25	*PERKINS, WALTER FRANK . .	Portswood House, Southampton, Hants.
2106	1891, May 23	PERRIAM, ALFRED JOSEPH . .	52, St. John's Villas, Upper Holloway, N.
2356	1891, Nov. 4	PETHER, HARRY	8, Craig's Court, Charing Cross, S.W.
1252	1885, Feb. 9	*PETO, JAMES WINDER . . .	6, Market Place, Reading, Berks.
428	1876, Feb. 21	PHILLIPS, FREDERICK HAMILTON	12, Belgrave Gardens, Dover, Kent.
1632	1889, Dec. 9	PHILLIPS, WILLIAM EDWIN. .	Eagle Chambers, Kingston-on-Thames.
1043	1884, Jan. 14	PICKERING, WILLIAM CLOVES .	Rhewl House, Mostyn, Flintshire.
651	1881, Dec. 19	PICKSTOCK, JOHN	Castle Hill, Winchester, Hants.
2357	1891, Nov. 4	PIERCY, HENRY ONSLOW . .	The Elms, Lowthorpe.
1617	1889, Apr. 1	PIERSON, CHARLES	29, Cooper Street, Manchester.
968	A. '83, May 25 / F. '86, Dec. 6	*†PILDITCH, PHILIP EDWARD .	17, Parliament Street, S.W., and 10, Upper Pl limore Place, Kensington, W.
1704	1890, Jan. 27	PINKS, EDWIN CHARLES . .	45, Parliament Street, S.W.

† Special Sanitary Science Certificate, 1890.

Date of Election and of Transfer.	FELLOWS.	
1891, Nov. 4	PINNEY, JOHN GEORGE . . .	Brooklyn House, Axminster.
1884, May 26	POLLARD, HARRY EMANS . .	14, Duke Street, Adelphi, W.C.
1891, Mar. 14	POPPLE, JOHN	Groves Hall, Sleights, near Whitby.
1883, Dec. 17	POPPLEWELL, WILLIAM WILLOTT	Victoria Chambers, Southampton Buildings, W.C.
1891, Nov. 4	PORTER, JOHN MERRY . . .	The Estate Office, Colwyn Bay, N. Wales.
1891, Nov. 4	POSTON, HENRY	39, Lombard Street, E.C.
1891, Nov. 4	POTTS, JAMES	Stanbeck, Workington, Cumberland.
1870, Jan. 24	POUNDLEY, JOHN EDWARD . .	Kerry, Newtown, Montgomeryshire.
1877, May 14	POWELL, EVAN	Broomcliffe, Llanidloes, Montgomeryshire.
1890, Nov. 22	POWELL, FREDERICK ATKINSON .	344, Kennington Park Road, S.E., and Agincourt Square, Monmouth.
A. '83, Dec. 17 F. '91, Mar. 16	POWELL, HUBERT JOHN . . .	St. Swithun's Estate Offices, Lewes, Sussex.
A. '74, Feb. 16 F. '80, Nov. 22	POWELL, REGINALD HENRY . .	St. Swithun's Lane, High Street, Lewes, Sussex.
1877, Dec. 10	POWNALL, GEORGE HARRY . .	29, Parliament Street, S.W.
1891, Nov. 4	PREEDY, FREDERIC	Caldecote, St. Neots, Huntingdonshire.
1890, Apr. 14	PRICE, FRANCIS HOLBORROW GLYNN	Longlands Place, Swansea, Glamorganshire.
1891, Nov. 4	PRICE, JOHN	Lark Lane, Toxteth Park, Liverpool.
A. '84, May 26 F. '90, Nov. 10	PRICE, THOMAS WILLIAM . .	59, Fenchurch Street, E.C.
1892, Feb. 26	PRIDAY, LEWIS HENRY . . .	Longford Court, near Gloucester.
1891, May 23	PRIDMORE, ALBERT EDWARD .	2, Broad Street Buildings, E.C., and Watford, Herts.
1890, Nov. 22	PRIDMORE, ARTHUR STIRLING .	140, Junction Road, N.
1890, May 29	PRITCHETT, ELLIS HERBERT .	Farringdon Street, Swindon, Wilts.
1891, Nov. 4	PROTHEROE, WILLIAM HENRY .	67 and 68, Cheapside, E.C.
1885, Nov. 9	PUNCHARD, FREDERICK . . .	Underley Estate Office, Kirkby Lonsdale, Westmoreland.
A. '84, Jan. 28 F. '89, Jan. 28	PURCHASE, EDWARD KEYNES .	Mansion House Chambers, 11, Queen Victoria Street, E.C.
1890, Nov. 22	PURVES, PETER	Huntingdon, and 45, Lincoln's Inn Fields, W.C.
1884, Dec. 8	PYM, GEORGE EDWIN . . .	Doods, Reigate, Surrey.
1891, Mar. 14	QUICK, FREDERIC WILLIAM. .	13, Culmore Road, Peckham, S.E.
1882, Apr. 24	RABY, JOSEPH WALKER . . .	78, Cross Street, Manchester.
1888, Dec. 10	RADFORD, WILLIAM	1, Princess Street, Manchester.
1891, Jan. 17	RADFORD, WILLIAM HAROLD .	1, Princess Street, Manchester.
1888, Feb. 20	RAIKES, COLONEL GEORGE WHITTINGTON	Ragley Estate Office, Alcester, Redditch.
1891, Mar. 14	RANDALL, RICHARD	Royal Engineers' Office, Curragh Camp, Ireland.
1891, Nov. 4	RANSFORD, BENJAMIN HERBERT	Salisbury Lodge, Berkeley, Gloucestershire.
1891, May 23	RANSOM, THOMAS ROBERT .	12, Lower Grosvenor Place, and 32, Lowndes Street, S.W.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
902	1883, Feb. 26	RAWLENCE, ERNEST ALFRED .	Newlands, Salisbury.
231	1870, Feb. 7	RAWLENCE, JAMES	Salisbury, Wilts.
2026	1891, Mar. 14	RAWLENCE, JAMES EDWARD . .	The Canal, Salisbury, Wilts.
1859	1890, Nov. 22	RAWLINS, HENRY ADAIR . . .	46, Queen Victoria Street, E.C.
2367	1891, Nov. 4	RAWLINS, WILLIAM	124, Cannon Street, E.C.
134	1868, Oct. 26	RAYNBIRD, HUGH EDWARD . .	Basingstoke, Hants.
1516	1888, Dec. 10	REA, JOHN MARCUS BEAUMONT.	8, Winckley Street, Preston, and Lytha Lancashire.
1139	1884, Apr. 21	READ, GEORGE HUNTLY . .	27, Albany Street, N.W.
2109	1891, May 23	REBBECK, EDWARD WISE . .	Gervis Place, Bournemouth.
2368	1891, Nov. 4	REBBECK, THOMAS WARREN .	Gervis Place, Bournemouth.
839	1882, Dec. 18	REDDALL, DAVID GADSDEN. .	10, South Street, Finsbury, E.C.
1860	1890, Nov. 22	REES, ITHEL TREHARNE . .	Guildhall Chambers, Cardiff.
584	1880, Dec. 13	REES, WILLIAM ANDREW . .	7, Cornhill, E.C.
544	1879, Apr. 28	REES, WILLIAM GEORGE . .	Holly House, Newport, Monmouthshire.
2369	1891, Nov. 4	REES, WILLIAM JOHN . . .	Cradock Street, Swansea.
2370	1891, Nov. 4	REEVE, KINGSNORTH. . . .	27, High Street, Rye, Sussex, and High Str Lydd, Kent.
929	A. '83, Apr. 16 / F. '89, Jan. 28	REID, FRANCIS	Bucksford, Ashford, Kent.
514	1878, Nov. 11	REID, PATRICK SANDEMAN . .	20, John Street, Adelphi, W.C.
937	1883, April 30	RENDELL, ARTHUR STEPHEN .	Market Terrace, Newton Abbot.
801	A. '82, Apr. 24 / F. '91, Jan. 19	REX, CHARLES WILLIAM . . .	1, Stanhope Terrace, Regent's Park, N.W.
802	A. '82, Apr. 24 / F. '90, Jan. 27	REX, FRANCIS HERBERT . .	311, Kentish Town Road, N.W.
172	A. '69, Feb. 8 / F. '82, Feb. 13	REX, WILLIAM	311, Kentish Town Road, N.W.
453	A. '76, May 8 / F. '81, Dec. 6	RICH, ROBERT	Didcot, Berks.
890	1883, Feb. 12	RICHARDS, ALFRED	Tottenham, N., and 18, Finsbury Circus, E.C.
2027	1891, Mar. 14	RICHARDS, GEORGE EDWARD .	St. John's Hill, Wimborne, Dorset.
2371	1891, Nov. 4	RICHARDS, HENRY . . .	Murthly Villas, St. Leonard's, Mortlake, S.W.
1197	1881, May 23	RICHARDS, HENRY BRINLEY .	79, Coleman Street, E.C.
2372	1891, Nov. 4	RICHARDS, THOMAS ROBERT .	25, Bedford Row, W.C.
2110	1891, May 23	RICHARDS, WILLIAM	Tottenham, N., and 18, Finsbury Circus, E.C
1955	1891, Jan. 17	RICHARDSON, CHARLES	15, Barn Hill, Stamford, Lincolnshire.
1746	1890, Feb. 24	RICHARDSON, GEORGE . . .	Estate Office, Edenhall, Langwathby, Cumberla
1817	1890, May 29	RICHARDSON, JAMES	15, Barn Hill, Stamford, Lincolnshire.
461	1876, Dec. 18	RICHARDSON, JOHN	Methley Park, Leeds.
2466	A. '91, Nov. 4 / F. '92, May 30	*RICHARDSON, OLIVER ARCHER .	3, Almorah Road, Canonbury, N.
1705	1890, Jan 27	RICHMOND, WALTER COLERIDGE	The Hollies, Potter's Bar, N.
303	1873, Feb. 10	RICKMAN, THOMAS MILLER . . (*Member of Council*)	8, Montague Street, Russell Square, W.C.
2373	1891, Nov. 4	RIDDETT, WILLIAM HAMMOND .	Townhall Chambers, Ryde, Isle of Wight.
914	1883, April	RIDDLE, FREDERICK HENRY BRIMBLE	139, Trinity Road, Tooting, S.W.

).	*Date of Election and of Transfer.*	FELLOWS.	
8	1891, Mar. 14	RIGDEN, FRANCIS	Salisbury, Wilts.
4	A. '82, Jan. 30 F. '83, Jan. 29	RIGDEN, HENRY WILLIAM . .	Salisbury, Wilts.
1	1891, May 23	RIGG, CHARLES	24, High Street, Cardiff.
7	1888, Dec. 10	RIGHTON, EDWARD GRANTHAM .	High Street, Evesham, Worcestershire.
4	1891, Nov. 4	RIX, GEORGE KERRY . . .	Somerleyton, near Lowestoft.
3	A. '76, Jan. 24 F. '90, Nov. 10	ROBERTS, CHARLES QUINCEY .	2, South Square, Gray's Inn, W.C.
2	1890, Feb. 10	ROBERTS, HENRY CROYDON .	16, Abchurch Lane, E.C.
0	1868, Aug. 17	ROBERTS, RICHARD	42, New Broad Street, E.C.
3	1890, Apr. 14	ROBERTS, THOMAS	Portmadoc, North Wales.
1	A. '82, Feb. 13 F. '91, May 25	ROBEY, ROBERT	Oaklands, East Tytherley, Romsey, Hants.
5	1888, Jan. 23	ROBINS, EDWARD	22, Conduit Street, W.
2	1868, Jul. 13	ROBINS, EDWARD COOKWORTHY .	46, Berners Street, Oxford Street, W.
3	1881, Jan. 24	ROBINS, WILLIAM HENRY . .	82A, New Street, Birmingham.
0	1887, Jan. 10	ROBINSON, CHARLES EDWARD .	36, Coleman Street, E.C.
:	1891, May 23	ROBINSON, EDMUND ARTHUR .	Lee-on-the-Solent, Gosport, Hants.
5	1891, Nov. 4	ROBINSON, GEORGE EDWARD .	9, Tacketts Street, Blackburn.
3	1881, Apr. 4	ROBINSON, HENRY	Westminster Chambers, 13, Victoria Street, S.W.
)	1882, May 8	ROBINSON, NATHANIEL WISHART	Marlowes, Hemel Hempstead, Herts.
	1872, Dec. 9	ROBSON, EDWARD ROBERT . .	Palace Chambers, 9, Bridge Street, S.W., and 2, The Paragon, Blackheath, S.E.
8	1888, Feb. 6	RODERICK, JOHN	2, Temple Row West, Birmingham.
	1890, Feb. 24	RODHAM, JOHN	16, Finkle Street, Stockton-on-Tees.
	1884, Dec. 8	ROGERS, WILLIAM BENNETT .	78, Gloucester Road, South Kensington, S.W.
)	1889, Jan. 28	ROKER, MITCHEL JOHN . . .	Snowdenham, Branksome Park, Bournemouth.
	A. '74, Dec. 7 F. '76 Jan. 24	ROLLESTON, JOHN FOWKE LANCELOT . . . . (*Member of Council*)	Grey Friars, Leicester.
	A. '83, May 25 F. '89, Jan. 28	*ROLLESTON, WILLIAM GUSTAVUS STANHOPE	Grey Friars, Leicester.
	A. '86, Dec. 6 F. '87, Nov. 14	*ROODS, ALFRED	21, Surrey Street, Strand, W.C.
	1891, May 23	ROOKE, ALFRED BRADLEY . .	11, Great James Street, Bedford Row, W.C.
	1891, Nov. 4	ROONEY, SAMUEL	Caledonian Chambers, Cardiff.
	A. '89, Dec. 9 F. '91, Jan. 5	ROPER, JOHN SIMPSON . . .	32, Market Square, Lancaster.
	A. '83, Nov. 12 F. '87, Jan. 10	ROPER, WILLIAM.	3, The Pantiles, Tunbridge Wells. Kent.
	1888, Apr. 30	ROSE, THOMAS	13, Bank Street, Norwich.
	1868, Aug. 31	ROSSER, WILLIAM	Rhydyrhelig, Swansea, and Llanelly, Carmarthen.
	1878, Apr. 8	ROWE, RICHARD REYNOLDS . .	Park House, Cambridge.
	A. '83, Apr. 30 F. '90, Jan. 27	ROWLANDSON, CHRISTOPHER .	The College, Durham.
	1891, May 23	ROYCE, DAVID NEEDHAM . .	Oakham, Rutland.
	1891, May 23	ROYCE, JOHN	Oakham, Rutland.
	1891, Mar. 14	RUAULT, JOHN GUSTAVE PETER	17, Southampton Street, Bloomsbury, W.C.
	1891, Mar. 14	RUDKIN, ARTHUR JOHN . . .	4, Walbrook, E.C.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
2377	1891, Nov. 4	RUDMAN, SYDNEY CHARLES . .	Windlestone, Ferry Hill, Co. Durham.
2378	1891, Nov. 4	RUMBALL, AUBREY	St. Alban's, Herts.
2379	1891, Nov. 4	RUMBLE, HARRY HUMFREY . .	Court House, St. Marylebone, W.
970	A. '83, May 25 / F. '90, Jan. 6	*RUNDLE, EDWARD COLLINS . .	Bedford Office, Tavistock, Devon.
1023	A. '83, Dec. 17 / F. '89, Feb. 25	RÜNTZ, ERNEST AUGUSTUS . .	22, Moorgate Street, E.C.
315	A. '73, Dec. 8 / F. '75, Nov. 8	RUSHWORTH, EDMUND WALTER	22, Savile Row, W.
1787	1890, Apr. 14	RUSSEL, ROBERT JOHN . . .	Brackley, Northants, and Banbury, Oxon.
2031	1891, Mar. 14	RUSSELL, MURRAY LAWRENCE .	3, King Street, Cheapside, E.C.
1261	1885, Mar. 9	RUTHERFORD, JAMES. . . .	Kirk-leatham, Redcar, Yorkshire
1547	1889, Jan. 14	RUTHERFORD, JAMES AUGUSTINE	Estate Office, Highclere Park, Newbury.
998	1883, Dec. 17	RUTLEY, CHARLES	11, Dowgate Hill, E.C.
1818	1890, May 29	RUTLEY, FRANK	11, Dowgate Hill, E.C.
2380	1891, Nov. 4	RYAN, WILLIAM PATRICK. . .	Thorner's Chambers, Ingram Court, Fenchur Street, E C.
466	A. '76, Dec. 18 / F. '80, Nov. 8	RYDE, ARTHUR LYON . . .	29, Great George Street, S.W.
909	A. '83, Feb. 26 / F. '91, June 29	RYDE, CHARLES BERTRAM . .	29, Great George Street, S.W.
16	1868, Jun. 15	RYDE, EDWARD . . . . (*Past-President*)	29, Great George Street, S.W.
421	1876, Jan. 24	SADLER, GEORGE WILLIAM . .	467, High Street, Cheltenham.
256	1871, Feb. 13	ST. QUINTIN, PERRY. . . .	50, Threadneedle Street, E.C.
438	A. '76, Mar. 20 / F. '89, Nov. 25	ST. QUINTIN, RICHARD SAMUEL	50, Threadneedle Street, E.C.
1518	1888, Dec. 10	SALTER, WILLIAM HERBERT .	The Hall, Attleborough, Norfolk.
1788	1890, Apr. 14	SAMPLE, CHARLES HERBERT .	Matfen, near Newcastle-on-Tyne.
1436	1888, Jan. 9	SAMPLE, THOMAS	Bothal Castle, near Morpeth, Northumberland
1789	1890, Apr. 14	SAMPLE, WILLIAM COLLINGS .	Bothal Castle, near Morpeth.
1519	1888, Dec. 10	SAMPSON, GEORGE	Beauchief Abbey, Sheffield.
1682	A. '89, Dec. 9 / F. '91, Oct. 15	SAMPSON, WILLIAM	Beauchief Abbey, near Sheffield.
1384	1887, Mar. 21	SAMUEL, WILLIAM JOHN . . .	Newport Pagnell, Bucks.
2116	1891, May 23	SANCTUARY, CAMPBELL FORTESCUE STAPLETON	Mangerton, Melplash, Dorset.
397	1875, Apr. 26	SANDAY, GEORGE HENRY . .	Langdale Lodge, Adkin Road, Clapham Park, S.
741	1882, Feb. 13	SANDERS, THOMAS	148, Worcester Street, Bromsgrove, Worcest shire.
458	1876, Nov. 27	SANDY, HENRY	Newport Road, Stafford.
2381	1891, Nov. 4	SARGEANT, JOHN	4, Holden Terrace, Grosvenor Gardens, S.W.
167	1869, Feb. 8	SAUNDERS, CECIL GEORGE . .	5, Agar Street, Strand, W.C.
177	1869, Feb. 22	SAUNDERS, EDWARD	6, Bishopsgate Street Without, E.C.
2382	1891, Nov. 4	SAUNDERS, MARTIN LUTHER .	9, Finsbury Circus, E.C.
2032	1891, Mar. 14	SAUNDERS, RUTLAND. . . .	6, Bishopsgate Street Without, E.C.
2383	1891, Nov. 4	SAUNDERS, THEODORE RIDLEY .	Belgrave Chambers, Ventnor, Isle of Wight.
121	1868, Aug. 17	SAVILL, ALFRED	39, New Broad Street, E.C., and Chigwell, Ess

Date of Election and of Transfer.	FELLOWS.	
{A. '82, Mar. 13 / F. '89, Mar. 18}	SAVILL, ALFRED, JUN. . . .	39, New Broad Street, E.C.
{A. '83, Jan. 15 / F. '92, Feb. 1}	SCAMMELL, THOMAS	14, John Street, Bristol.
1874, Feb. 2	SCARTH, WILLIAM T. . . .	Raby Castle, Darlington.
1891, Nov. 4	SCOTT, AUGUSTUS FREDERIC .	24, Castle Meadow, Norwich.
1887, Mar. 21	SCOTT, HENRY LACY . . .	Bury St. Edmund's, Suffolk.
{A. '81, Dec. 5 / F. '82, Apr. 24}	SCOVELL, JOHN	Oulton Park, Tarporley, Cheshire.
{A. '82, Feb. 13 / F. '89, Mar. 4}	SCRIVEN, CHARLES HERBERT .	Bank Plain, Norwich.
1890, Nov. 22	SCRIVEN, RICHARD GEORGE .	Castle Ashby, Northampton.
1890, Nov. 22	SCROGGS, WILLIAM	Rectory House, Kidlington, Oxford.
1890, Jan. 27	SEBASTIAN-SMITH, CHARLES .	Shipley, Derby, and Friar Lane, Leicester.
1879, Mar. 3	SELBY, CHARLES FREDERIC . .	19, Queen Anne's Gate, S.W.
1890, Feb. 10	SELBY-BIGGE, CHARLES P. O. .	Bourton Estate Office, Much Wenlock, Shropshire.
1890, Nov. 22	SENIOR, HARRY SAMUEL . .	Sturminster Newton, Dorset.
1889, Dec. 9	SETH-SMITH, WILLIAM HOWARD	46, Lincoln's Inn Fields, W.C.
{A. '82, Nov. 13 / F. '86, May 3}	SEYMOUR, RICHARD ARTHUR HAMILTON	46, Earl Street, Maidstone, Kent.
{A. '84, Jan. 14 / F. '91, Mar. 16}	SHACKLE, EDWARD NEILD . .	7, Hobart Place, S.W.
1876, Mar. 6	SHAW, JOHN . . . . . (*Member of Council*)	College Place, Derby.
{A. '83, May 21 / F. '90, Mar. 10}	SHAW, JOHN, JUN.	The College, All Saints', Derby.
1890, May 29	SHELMERDINE, HENRY . . .	Estate Offices, Lancashire and Yorkshire Railway, Hunt's Bank, Manchester.
1890, Feb. 24	SHEPPARD, ERNEST	111, Eaton Terrace, Ebury Street, S.W.
1883, Dec. 17	SHEPPARD, OSBORNE	Glynelydach, Neath.
1886, May 3	SHERRIN, JOHN LESTER . .	39, Great James Street, Bedford Row, W.C.
{A. '82, Jan. 16 / F. '87, Dec. 5}	SHERWIN, JOSEPH HENRY . .	16, Whitehall Place, S.W.
1891, May 23	SHILCOCK, JAMES	Hitchin, Herts, and 15, Basinghall Street, E.C.
1891, Nov. 4	SHONE, ISAAC	Great George Street Chambers, Westminster, S.W.
{A. '77, Jan. 29 / F. '80, Nov. 8}	SHOPPEE, CHARLES HERBERT .	22, John Street, Bedford Row, W.C.
1868, Jul. 13	SHOPPEE, CHARLES JOHN . . (*President*)	61, Doughty Street, W.C.
{A. '81, Jan. 24 / F. '83, May 21}	*SILCOCK, THOMAS BALL. . .	Octagon Chambers, Milsom Street, Bath.
1882, Jan. 30	SIMMONDS, FREDERICK . . .	Parkside, Englefield Green, Surrey.
1889, Dec. 9	SIMMONS, CHARLES	Henley-on-Thames.
{A. '82, May 8 / F. '89, Nov. 11}	SIMMONS, CHARLES FRANKLIN .	Basingstoke, Hants, and Henley-on-Thames.
{A. '82, Dec. 4 / F. '91, Aug. 4}	SIMMONS, WILLIAM ANKER . .	Henley-on-Thames, and Basingstoke.
1883, Feb. 26	SIMMS, WALTER	27, Albany Street, N.W.
1888, May 14	SIMPSON, ROBERT THOMAS .	Horsecroft, Bury St. Edmunds, Suffolk.
1891, Nov. 4	SINGLE, ARTHUR	83, The Grove, Stratford, E.
1891, Nov. 4	SKITT, ARTHUR	Glenbrook, Trent Road, Brixton Hill, S.W.
1891, Nov 4	SLADE, JAMES BENJAMIN . . .	67 & 68, Cheapside, E.C.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
282	1872, Apr. 22	SLATER, GEORGE	Canterbury.
593	A. '80, Dec. 12 / F. '88 April 30	SMALLPEICE, GEORGE BAKER .	9 and 10, Tokenhouse Yard, E.C., and Guildfor
135	1868, Oct. 26	SMELLIE, THOMAS DAVIES . .	209, St. Vincent Street, Glasgow.
122	1868, Aug. 17	SMITH, CHARLES BOVILL . .	Wykeham House, Fareham, Hants.
238	A. '70, Mar. 21 / F. '78, Mar. 11	SMITH, CHARLES JOHN . .	16, Whitehall Place, S.W.
1626	1889, May 13	SMITH, EDWARD	54, Amwell Street, E.C.
1484	1888, Apr. 30	SMITH, FRANK	37, Cannon Street, Birmingham.
2389	1891, Nov. 4	SMITH, FRANK ADAMS . . .	28, Finsbury Circus, E.C.
1538	A. 88, Dec. 10 / F. '90, Jan. 27	*SMITH, FRANK WILLIAM . .	Beauchamp Hill, Milverton, Leamington.
2033	1891, Mar. 14	SMITH, FREDERIC ELLISON . .	21, Tyrrel Street, Bradford
2390	1891, Nov. 4	SMITH, FREDERICK JOHN . .	21, Portland Street, Southampton.
2034	1891, Mar. 14	SMITH, FREDERICK ROBERT .	6, Great College Street, S.W.
1655	1889, Dec. 9	SMITH, GEORGE	Boughton-Monchelsea, Kent.
2119	1891, May 23	SMITH, GEORGE ALFRED . .	78, Parchment Street, Winchester.
1864	1890, Nov. 22	SMITH, HARRY RUSSELL . . .	Exchange Buildings, Bradford.
454	A. '76, May 8 / F. '81. Dec. 6	SMITH, HENRY	8, John Street, Adelphi, W.C.
400	A. '75, Apr. 26 / F. '81, Jan. 24	SMITH, HENRY HERBERT . .	Chippenham, Wilts. and 7, Whitehall Place, S.W
2391	1891, Nov. 4	SMITH, JOHN MOORE . . .	14, Union Court, Old Broad Street, E.C.
1487	1888, May 14	SMITH, JOHN THOMPSON . .	Tattondale, Knutsford, Cheshire.
955	1883, May 25	SMITH, JOSEPH	21, Tyrrel Street, Bradford.
2118	1891, May 23	SMITH, PERCY PYNE CALDECOTT	8, Essex Street, Strand, W.C.
1820	1890, May 29	SMITH, SIDNEY	Southwater, Horsham, Sussex.
2392	1891, Nov. 4	SMITH, SIDNEY ROBERT JAMES .	14, York Buildings, Adelphi, W.C.
894	A. '83, Feb. 12 / F. 89, Feb. 25	SMITH, WHEATER	15, Cheapside, Bradford.
1256	1885, Feb. 23	*SMITH, WILLIAM	Upper Farm, Abbot's Salford, Evesham, Wo cestershire.
1372	1887, Feb. 21	SMYTH-RICHARDS, GEORGE COBLEY	Wistlandpound, and 6, Castle Street, Barnstap Devon.
1494	1888, Nov. 12	SNELLING, HENRY	19 and 20, Walbrook, E.C., and Sidcup, Kent.
146	1868, Nov. 9	SOUTHWELL, CHARLES JOSIAH .	Hook Field House, Bridgnorth, Shropshire.
1821	1890, May 29	SPACKMAN, CHARLES CHANTREY	6, Terrace Walk, Bath.
96	1868, Jul. 27	SPACKMAN, HENRY	6, Terrace Walk, Bath.
1689	1890, Jan. 6	SPELMAN, CLEMENT CHARLES RIX	St. Giles' Street, Norwich.
2035	1891, Mar. 14	SPINK, THOMAS	64, Holborn Viaduct, E.C.
1107	1884, Feb. 25	SPURLING, HENRY	51, Prince's Street, Ipswich, Suffolk.
42	1868, Jun. 15	SQUAREY, ELIAS PITTS . . . (*Past-President*)	The Moot, Downton, Salisbury, and 22, Gr George Street, S.W.
1822	1890, May 29	SQUAREY, NEWELL WILLIAM PITTS	The Moot, Downton, Salisbury, and 22, Gr George Street, S.W.
1067	1884, Jan. 28	SQUIRE, RICHARD	2, Pont Street, Belgrave Square, S.W.
1277	1885, Dec. 7	STACEY, HARRIE	Station Road, Redhill, Surrey.
1268	1885 May 4	STAFFORD, ROBERT BARRY . .	83, High Street, Bedford.
2393	1891, Nov. 4	STALLARD, ALFRED EDWIN . .	West Street, Havant.

Date of Election and of Transfer.	FELLOWS.	
1891, Nov. 4	Stallard, William	Estate Office, Madresfield, Malvern Link.
1891, Nov. 4	Stanford, Charles Maurice .	23, High Street, Colchester.
1882, Dec. 18	Stanger, Caleb	21, Finsbury Pavement, E.C.
1891, Mar. 14	Stanger, Samuel Arthur . .	21, Finsbury Pavement, E.C.
1891, May 23	Stanham, George Gordon. .	100B, Queen Victoria Street, E.C.
1888, Jan. 9	Stanley-Dodgson, Stanley Dickinson	Estate Office, Somerset House, Whitehaven, Cumberland.
1890, Jan. 27	Start, Joseph William . .	Cups Chambers, High Street, Colchester, Essex.
1891, Nov. 4	Stedman, Charles Mason . .	The Turret House, Killieser Avenue, Streatham Hill, S.W.
1877, Jan. 15	Stenning, Alexander Rose .	121, Cannon Street, E.C.
A. '79, Jan. 6 / F. '82, Nov. 13	Stephenson, Charles William	38, Parliament Street, S.W.
1890, May 29	Stevens, Charles Vivian . .	7, Whitehall Place, S.W.
1891, Nov. 4	Stevens, John William . .	21, Bridge Street, E.C.
1884, May 26	Stevens, William Charles .	22, Savile Row, W.
1891, Mar. 14	Stevenson, Edmund Herbert	38, Parliament Street, S.W.
1868, Jul. 27	Steward, Herbert Thomas . (*Member of Council*)	45, Parliament Street, S.W.
1891, Mar. 14	Stirton, Thomas	West Stratton, Micheldever, Hants.
1883, April 30	Stock, Henry	9, Denman Street, London Bridge, S.E.
1891, May 23	Stocks, Frederick William .	Estate Office, Mere, Knutsford.
1891, Nov. 4	Stokes, Frederick Vincent .	31, Great James Street, Bedford Row, W.C.
1881, Dec. 19	Stoner, Alfred	8, Blomfield Street, E.C.
1889, Mar. 4	Stooke, James	Courtenay Street, Newton Abbot, Devon.
1891, Nov. 4	Stopher, Thomas	Winchester, Hants.
1891, Mar. 14	Street, William Charles .	7, Victoria Street, S.W.
1884, Feb. 25	Strudwick, Hayward James .	Falcon Court, 32, Fleet Street, E.C.
1881, Dec. 19	Strudwick, William Henry .	14, Parliament Street, S.W.
A. '75, Dec. 13 / F. '91, June 29	Strutt, Hon. Edward Gerald	43, Finsbury Circus, E.C., and Whitelands, Hatfield Peverel, Chelmsford, Essex.
1888, May 14	Studdy, Thomas Edward . .	Broxton, Chilbolton, Hants.
1868, Jul. 20	Sturge, Robert Fowler . .	34, Corn Street, Bristol.
1868, Jun. 15	Sturge, William . . . . (*Past-President*)	34, Corn Street, Bristol.
1891, Nov. 4	Surridge, Joseph Smith . .	Coggeshall, Essex.
1891, Nov. 4	Suthers, James	Victoria Villas, Todmorden.
1891, Nov. 4	Swain, Ernest	82, High Street, Notting Hill, W.
1891, Nov. 4	Swain, Frank	82, High Street, Notting Hill, W.
A. '87, Dec. 11 / F. '92, Feb. 1	Swetenham, Henry . . .	Nidd, Ripley, Yorkshire.
1885, Dec. 7	Swettenham, William Norman	The Old School House, Shrewsbury.
1885, Feb. 23	Sworder, Hugh	High Street, Epping, Essex.
1884, Jan. 28	Symons, Philip	Fore Street, Totnes, Devon.
1891, Jan. 17	Synge, Edward Millington .	Eastlands, Weybridge.

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1824	1890, May 29	TABBERER, BENJAMIN . . .	13, Basinghall Street, E.C.
1317	1886, May 3	TANNER, HENRY	H.M. Office of Works, Whitehall Place, S.W.
1092	1884, Feb. 11	TANNER, JAMES MELHUISH . .	Wembworthy, North Devon.
1115	A. '84, Feb. 25 / F. '88, Dec. 10	TANNER, WILLIAM	Lynhurst, Newport, Monmouthshire.
771	A. '82, Feb. 27 / F. '89, Nov. 11	TAPP, ARTHUR	15, Great George Street, and Southend-on-Sea Essex.
2404	1891, Nov. 4	TASKER, HENRY HUGH . . .	24, Penton Street, Pentonville, N.
233	A. '70, Feb. 7 / F. '78, Jan. 28	TATHAM, GEORGE HENRY . .	63 & 64, New Broad Street, E.C., and Romford Essex.
2405	1891, Nov. 4	TAYLOR, ARTHUR WILLIAM . .	119, High Street, Putney, S.W.
1364	1887, Jan. 24	TAYLOR, EDWARD FERGUSSON .	New Barnet, Herts, and 70 & 72, Chancery Lane, W.C.
1471	A. '88, Mar. 5 / F. '91, July 6	TAYLOR, JOHN HERBERT . .	5, Great George Street, S.W.
678	A. '81, Dec. 19 / F. '87, Feb. 7	TAYLOR, JOHN WILLIAM . .	33, Westgate Road, Newcastle-on-Tyne.
1026	A. '83, Dec. 17 / F. '89, Nov. 11	TAYLOR, MATTHEW	Northchapel, Petworth, Sussex.
1825	1890, May 29	TAYLOR, RICHARD FREDERICK .	3, King Street, Cheapside, E.C.
2406	1891, Nov. 4	TAYLOR, SAMUEL	Nuttall, Nottingham.
2407	1891, Nov. 4	TAYLOR, THOMAS WALTERS . .	25, Brazennose Street, Manchester.
1069	1884, Jan. 28	TEWSON, EDWARD	80, Cheapside, E.C.
859	A. '82, Dec. 18 / F. '85, Jan. 12	TEWSON, EDWARD ARTHUR. .	80, Cheapside, E.C.
806	A. '82, Apr. 24 / F. '90, Nov. 10	THEOBALD, HENRY	87, Finsbury Pavement, E.C., and Cleveland Road, South Woodford, Essex.
924	1883, April 16	THEOBALD, HENRY WELLS DEWHURST	110, Great Russell Street, W.C.
2408	1891, Nov. 4	THOMAS, GEORGE	Queen's Chambers, Cardiff.
1765	1890, Mar. 10	THOMAS, GLEGGE	Cheshire Lines Committee, Central Station Liverpool.
2409	1891, Nov. 4	THOMAS, JOHN HENRY . . .	78, Gloucester Road, South Kensington, S.W.
329	1874, Jan. 19	THOMAS, JOSIAH	Athenæum Chambers, Nicholas Street, Bristol.
2410	1891, Nov. 4	THOMAS, WILLIAM	Castlemartin Court, near Pembroke.
841	1882, Dec. 18	THOMPSON, ARTHUR EDMUND .	Leadenhall Buildings, E.C.
2411	1891, Nov. 4	THOMPSON, FRANCIS WILLIAM .	5, Wood Street, Bolton.
2412	1891, Nov. 4	THOMPSON, GEO. WILLIAM . .	36, Wood Vale, Forest Hill, S.E.
1329	1886, Dec. 6	THOMSON, WILLIAM CUNNINGHAM	Estate Office, Luton Hoo, Luton, Beds.
1473	1888, Mar. 19	THORNE, ARNOLD	Cross Street, Barnstaple, Devon.
757	A. '82, Feb. 13 / F. '89, Nov. 25	THORPE, CHRISTOPHER . . .	Chesterfield.
2122	1891, May 23	THORPE, JOHN	Nailstone, Hinckley, Leicestershire.
1000	1883, Dec. 17	THORPE, WILLIAM	Nailstone, Hinckley, Leicestershire.
657	1881, Dec. 19	THURGOOD, HERBERT JOHN .	27, Chancery Lane, W.C.
1623	1889, Apr. 29	THURGOOD, WILLIAM HENRY .	22, Great George Street, S.W.
591	A. '80, Dec. 13 / F. '87, Nov. 14	THURNALL, JOHN EDWARD . .	Royston, Herts.
494	1878, Jan 14	THURSFIELD, THOMAS HOWELLS	Barrow, Brosely, Shropshire.
45	1868, Jun. 15	THYNNE, EDWARD LEWIS . .	11, Great George Street, S.W.
155	1869, Jan. 11	THYNNE, FREDERICK GEORGE	11, Great George Street, S.W.

Date of Election and of Transfer.	FELLOWS.	
1884, Jan 28	THYNNE, GUY HARRY . . .	11, Great George Street, S.W.
1890, Nov. 22	TIDMAN, EDWARD	Connaught Mansions, 34, Victoria Street, S.W.
A. '86, Jan. 11 / F. '89, Mar. 18	*TIFFEN, JOHN HENRY . . .	Conservancy Buildings, Hull.
1882, Feb. 13	TIFFEN, JOSEPH	Conservancy Buildings. Hull.
1887, Feb. 21	TINDALL, CHARLES WILLIAM .	Scawby, Brigg, Lincolnshire.
1891. Nov. 4	TODD, RICHARD	Englefield, near Reading.
1885, Jan. 12	TODD, WILLIAM HENRY . .	County Buildings, Hull.
1875, Jan. 18	TOLLEY, JAMES	66, Cannon Street, E.C.
1888, Jan. 9	TOMLINSON, THOMAS. . . .	Estate Office, Alnwick Castle, Northumberland.
1889, Mar. 4	TOMPSETT, WILLIAM ROBERT	Stone Castle Farm, Paddock Wood, Kent, and 182, High Street, Tonbridge.
1890, May 29	TOMSON, JAMES JOHN . . .	Windsor Estate Office, Barnt Green, near Redditch.
1882, Feb. 27	TOOTELL, CHARLES	13, King Street, Maidstone, Kent.
1882, Feb. 27	TOOTELL. JOSEPH	13, King Street, Maidstone, Kent.
1877, Jan. 29	TOOTELL, RICHARD WILLIAM .	11, Queen Victoria Street, E.C.
1876 Apr. 24	TOWER, BROWNLOW RICHARD CHRISTOPHER	Bridgewater Estate Office, Ellesmere, Salop.
1891, Nov. 4	TRAFFORD, FREDERICK CHARLES	100, Jermyn Street, St. James's, S.W.
A. '83, May 25 / F. 86, Dec. 6	*TREADWELL, HENRY JOHN . .	2, Waterloo Place, Pall Mall. S.W.
1891, Nov. 4	TREPPLIN, ERNEST C. . . .	Vasterne, Wootton Bassett, Wilts.
1883, Dec. 17	TRETHEWY, HENRY	Silsoe, Ampthill, Beds.
1886, Jan. 11	TRIST, JOHN WILLIAM . . .	62, Old Broad Street, E.C.
1874, May 11	TROLLOPE, CHARLES BROWN .	13, Parliament Street, S.W.
A. '80, Dec. 13 / F. '91, Jan. 19	TROLLOPE, HENRY CHARLES. .	7, Hobart Place, S.W.
1891, May 23	TROUNSON, JOHN WILLIAM . .	27, Clarence Street, Penzance.
A. '84, Mar. 10 / F. '91, Aug. 4	TRUMPER, JOHN ALFRED . .	23, Lincoln's Inn Fields, W C.
1868, Jun. 15	TRUMPER, RICHARD	23, Lincoln's Inn Fields, W.C.
1891, Mar. 14	TUBBS, WALTER BURNELL . .	St. Martin's House, 1, Gresham Street, E.C.
1868, Aug. 3	TUCKETT, PHILIP DEBELL . .	2, Basinghall Street, E.C.
1878, Dec. 9	TUNLEY, GEORGE	28, Finsbury Circus, E.C.
1891, Nov. 4	TURNER, ALEXANDER HENRY .	199, Piccadilly, W.
1888, Nov. 12	TURNER, CHARLES	Oakhurst, East Grinstead, Sussex.
1883, Feb. 26	TURNER, FREDERICK JOHN . .	Mansfield-Woodhouse. Mansfield, Notts.
1884, Jan. 28	TURNER, JOHN	The Grange, Ulceby, Lincolnshire.
1890, Nov. 22	TURNER, JOSEPH HARLING . .	Portland Estate Offices, Kilmarnock.
1891, May 23	TURNER, THOMAS NEVE. . .	37, Upper Berkeley Street, Portman Square, W.
1888, Dec. 10	TURNER, THOMAS WARNER. .	Welbeck Abbey, Worksop, Notts.
1879, May 12	TURNER, WILLIAM WEBB . .	9, Clinton Place, Seaford, Sussex.
1885, Jan. 26	TURNOR, EXSUPERIUS WESTON .	The Green, Stafford.
1890, Nov. 22	TURTON, EDWARD JAMES . .	Horkstow, Barton-on-Humber, Lincolnshire.
1891, Nov. 4	TYSER, RICHARD.	360, High Road, Chiswick, W.

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2041	1891, Mar. 14	UPCHER, EDWARD BERNERS .	Kirby Cane, Norfolk.
1571	1889, Jan. 28	USHER, ALFRED	Belize, British Honduras.
905	1883, Feb. 26	VAIZEY, JOHN GEORGE . . .	Bocking, Braintree, Essex, and 44, Bedford Row W.C.
2125	1891, May 23	VALLANCE, ROBERT FRANK . .	Mansfield, Notts.
1002	1883, Dec. 17	VEEVERS, RICHARD	Woningworth, Fulwood Park, Preston.
319	A. '73, Dec. 8 / F. '78, Nov. 11	VENABLES, FREDERICK . . .	60, Chancery Lane, W.C.
429	1876, Feb. 21	*VERNON, ARTHUR . . . . (*Member of Council*)	Borshams, High Wycombe, Bucks; and 26 Great George Street, Westminster, S.W.
816	1882, May 22	VIDLER, JAMES COLEMAN . .	Rye and Hastings, Sussex.
418	1876, Jan. 10	VIGERS, ASTLEY	4, Frederick's Place, E.C.
268	1871, Dec. 4	VIGERS, EDWARD, JUN. . . .	38, Parliament Street, S.W.
20	1868, Jun. 15	VIGERS, FRANCIS . . . . . (*Vice-President*)	4, Frederick's Place, E.C.
498	A. '78, Jan. 28 / F. '83, Nov. 12	VIGERS, LESLIE ROBERT . .	4, Frederick's Place, E.C.
594	A. '80, Dec. 13 / F. '85, Nov. 9	VIGERS, MARTIN	52, Queen Victoria Street, E.C.
46	1868, Jun. 15	VIGERS, ROBERT . . . . . (*Member of Council*)	4, Frederick's Place, E.C.
1496	1888, Nov. 12	VILLAR, JAMES	1A, Cambray, Cheltenham.
1601	1889, Mar. 4	WACHER, THOMAS	Upper Bridge Street, Canterbury, Kent.
1868	1890, Nov. 22	WADDINGTON, JOHN ALLEN . .	Bayfordbury, Hertford.
2126	1891, May 23	WADE, GEORGE TEMPEST . .	Halford Street, Leicester.
842	1882, Dec. 18	WADE, JOHN.	10, Pitt Street, Barnsley.
2418	1891, Nov. 4	WADLING, HENRY JOHN . . .	Lamb Building, Temple, E.C.
2419	1891, Nov. 4	WADMORE, BEAUCHAMP . . .	35, Great St. Helen's, E.C.
1618	1889, Apr. 1	WAGSTAFFE, THOMAS ROGERS .	11, Devonshire Road, Balham, S.W., and 109 Leadenhall Street, E.C.
658	1881, Dec. 19	WAINWRIGHT, CHARLES RAWLINSON	Shepton Mallet, Somerset.
843	1882, Dec. 18	WAINWRIGHT, CHARLES RAWLINSON, JUN.	Shepton Mallet, Somerset.
1631	1889, Nov. 25	WAINWRIGHT, THOMAS TAYLOR.	21, Leigh Street, Liverpool.
1392	1887, May 9	WALCOTT, LYONS RODEN SYMPSON	1, Gray's Inn Place, W.C.
1656	1889, Dec. 9	WALKER, COLONEL DAVID . .	11, Dale Street, Liverpool.
1869	1890, Nov. 22	WALKER, FRANCIS ELLIOTT . .	Blake Street, York.
2421	1891, Nov. 4	WALKER, GEORGE BOOTH . .	Wainfleet, Lincolnshire.
743	1882, Feb. 18	WALKER, HERBERT	Newcastle Chambers, Angel Row, Nottingham.
2127	1891, May 23	WALKER, JOSEPH.	Lenton Avenue, The Park, Nottingham.
1773	1890, Mar. 24	WALKER, JOSHUA	Market Place, Retford, Notts.
2422	1891, Nov. 4	WALKER, ROBERT	33, King Street, W.C.
659	1881, Dec. 19	WALKER, SAMUEL	22, Moorgate Street, E.C.
1072	1884, Jan. 28	WALL, GEORGE YOUNG . . .	Exchequer Buildings, Durham.

Date of Election and of Transfer.	FELLOWS.	
1891, Nov. 4	Wallace, George	St. Giles' District Board of Works, 197, High Holborn, W.C.
1884, May 19	Wallace, Henry	Trench Hall, Gateshead-on-Tyne, Co. Durham.
1888, Feb. 6	Wallington, John Arthur Beach.	Basingstoke, Hants.
1882, Mar. 27	Walmisley, Arthur Thomas	9, Victoria Street, S.W., and Harbour Board Offices, Dover, Kent.
1891, Mar. 14	Walmisley, Joseph William	7, King's Terrace, Southsea, Hants.
1890, Nov. 22	Walsh, Albert Mellor	19, King Edward Street, Macclesfield.
1890, May 29	Wanklyn, Phillip Endell	Dixton, near Monmouth.
1887, Dec. 19	Ward, Daniel	8, Courtenay Street, Plymouth, and Hewton, Beeralston, Devon.
1890, Feb. 10	Ward, Felix John	Crowsmoor, Aston-on-Clun, Salop.
1888, Mar. 5	Ward, Frank	Burnville, Bridestowe, North Devon.
A. '83, Dec. 17 / F. '89, Nov. 11	Ward, George	"Lyndhurst," 2, Stowe Road, Goldhawk Road, W.
1881, Dec. 19	Ware, Charles Edwin	Gandy Street Chambers, Exeter.
1884, Apr. 21	Waring, Charles Edward	1, Charles Street, Crockherbtown, Cardiff.
1890, Nov. 22	Waring, Herbert Fuller	46, Earl Street, Maidstone, Kent.
1891, Nov. 4	Warner, Alfred Ernest	6, Waterloo Place, S.W.
1889, Nov. 25	Warner, Henry.	Faringdon, Alton, Hants.
A. '69, Mar. 8 / F. '75, Apr 12	Warner, William Henry	130, Mount Street, Grosvenor Square, W.
1891, Nov. 4	Waterman, Albert James	20, Week Street, Maidstone.
1883. Jan. 29	Waterman, James	Ashford, Kent.
1884, Feb. 25	Waterman, Richard	20, Week Street, Maidstone, Kent.
1891, Mar. 14	Waters, Edward	The Canal, Salisbury, Wilts.
1884, Feb. 25	Waters, Frank	1, Sidney Street, Cambridge.
A. '82, Feb. 13 / F. '87, Mar. 7	Waters, William Richard	21, Upper Berkeley Street, Portman Square, W.
A. '84. Feb. 11 / F. '89, Mar. 4	Watkins, Robert Arundel	Castle Combe, Chippenham, Wilts.
1868. Jun 15	Watney, Daniel. (*Vice-President*)	33, Poultry, E.C.
1891, Jan. 17	Watney, Dendy.	33, Poultry, E C.
A. '83, May 21 / F. '87, Feb. 21	Watney, Walter Daniel	33, Poultry, E.C.
1889, Dec. 9	Watson, Alfred	60, Queen Victoria Street, E.C
1880, Mar. 1	Watson, Herbert Edward	New Grove, Petworth, Sussex, and Clifton, York.
1882, Apr. 24	Watson, John	Shirburn Castle, Tetsworth, Oxon.
1891. Nov. 4	Watson, John	62, Whitefriar-gate, Hull.
1888, Feb. 6	Watt, Alexander	Princetown, Devon.
A. '76, Dec. 18 / F. '79, Nov. 10	Watts, Charles	13, Southampton Street, Strand, W.C.
1891, Nov. 4	Watts, Samuel Lingard	Town Hall Buildings, King Street, Manchester.
1889, Nov. 25	Watts, William John	Town Hall Chambers, King Street, Manchester.
1889, Dec. 9	Way, Henry James.	109, Lower St. James' Street, Newport, Isle of Wight.
1872, May 6	Weall, John	38, High Street, Watford.

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1045	1884, Jan 14	WEATHERALL, HENRY . . .	22, Chancery Lane, W.C.
700	1882, Jan. 16	WEAVER, WILLIAM	Town Hall, Kensington, W.
215	1869, Dec. 6	WEBB, GEORGE	Tunstall, Sittingbourne, Kent.
1725	1890, Feb. 10	WEBB, WILLIAM	4, High Street, Croydon.
1478	1888, Apr. 16	WEBSTER, ALEXANDER . . .	100, Highgate, and 9, Cliff Terrace, Kendal Westmoreland.
1659	1889, Dec. 9	WELCH, FREDERICK WILLIAM .	168, North Street, Brighton, and 26, Havelock Road, Hastings.
2128	1891, May 23	WELLS, EDWIN	Barnard Castle, Co. Durham.
1169	A. '84, May 5 / F. '90, Dec. 8	WELLS, WILLIAM HOWLEY . .	Estate Office, Evershot, Dorset.
661	1881, Dec. 19	WELLSTED, WILLIAM HENRY .	Manor Street, Hull.
744	1882, Feb. 13	WESTBURY, GEORGE HENRY .	The Knoll, Andover, Hants.
88	1868, Jul. 20	WESTBURY, GILES	Andover, Hants.
2045	1891, Mar. 14	WETHERALL, HARRY LANCASTER	Brachlyn, Winchfield, Hants.
1454	1888, Feb. 6	WHALLEY, HENRY SHAW . .	90, Northgate Street, Chester.
779	1882, Mar. 13	WHARTON, THOMAS GEORGE .	1, Basinghall Street, E.C.
1726	1890, Feb. 10	WHATLEY, FREDERICK ERNEST	Cirencester.
1660	1889, Dec. 9	WHELER, EDWARD GALTON . .	Alnwick, Northumberland.
1266	1885, Apr. 20	WHITAKER, GEORGE	Westminster Chambers, 9, Victoria Street, S.W.
2427	1891, Nov. 4	WHITE, ALFRED EDWARD . .	Town Hall, Hull.
1958	1891, Jan. 17	WHITE, ARTHUR JEFFREY . .	Wrangaton Manor, Ivybridge, South Devon.
1959	1891, Jan. 17	WHITE, CHARLES ALEXANDER .	18, High Street, Dorking, Surrey.
2428	1891, Nov. 4	WHITE, JAMES ALEXANDER . .	18, High Street, Dorking.
745	1882, Feb. 13	WHITE, JOHN.	Warrington, Lancashire.
1774	1890, Mar. 24	WHITE, JOHN.	49, London Road, Sevenoaks, Kent.
2429	1891, Nov. 4	WHITE, WILLIAM HENRY . .	31, Eldon Street, South Place, Finsbury, E.C.
701	1882, Jan. 16	WHITELEY, CHARLES PERRY .	82, Queen Street, E.C.
2430	1891, Nov. 4	WHITTINDALE, JAMES . . .	The Poplars, Kenilworth, Warwickshire.
2431	1891, Nov. 4	WHITTON, JOHN WILLIAM . .	34, Corn Market, Derby.
2432	1891, Nov. 4	WHYTE, WILLIAM MCNICOL . .	103, West Regent Street, Glasgow.
350	1874, Apr. 27	WIDNELL, FREDERICK GRAINGER	13, Parliament Street, S.W.
1790	1890, Apr. 14	WIGLEY, GEORGE DAVYS EDWARD	Winslow, Bucks.
234	A. '70, Feb. 7 / F. '76, Nov. 13	WIGRAM, JOHN	South Collingham, Newark, Notts.
2492	1892, Feb. 26	WILBRAHAM, EDWARD SIDNEY .	Estate Office, St. Giles, Salisbury.
2046	1891, Mar. 14	WILDE, WILLIAM	Brockett House, Sharrow, Sheffield.
2433	1891, Nov. 4	WILKIN, HORACE MARTIN . .	King's Lynn, Norfolk.
2434	1891, Nov. 4	WILKINS, WILLIAM	38, Thomas Street, Llanelly.
721	1882, Jan. 30	WILKINSON, GEORGE AYSCOUGH	7, Poultry, E.C.
1960	1891, Jan. 17	WILKINSON, GEORGE HERBERT.	7, Poultry, E.C.
1226	1884, Dec. 8	WILKINSON, THOMAS . . .	168, North Street, Brighton, and 26, Havelock Road, Hastings.
915	1883, April 2	WILKINSON, WILLIAM . . .	32, Kellett Road, Brixton, S.W.
1242	1885, Jan. 12	WILKS, RICHARD	Little Mongeham, near Deal, Kent.

Date of Election and of Transfer.	FELLOWS.	
1890, Mar. 10	WILLIAMS, EDWARD	City Chambers, 82, New Street, Birmingham.
1891, Nov. 4	WILLIAMS, GERALD GARNOUS .	Abercamlais, Brecon, South Wales.
1890, Nov. 22	WILLIAMS, HERBERT WALTER .	Rochester House, Park Road, Winchester, Hants.
1884, Feb. 11	WILLIAMS, JOHN	Gwernhefin, Bala, North Wales.
A. '75, Jan. 18 / F. '90, Feb. 24	WILLIAMS, LEONARD JAMES .	118, Queen Victoria Street, E.C.
1870, May 9	WILLIAMS, STEPHEN WILLIAM .	Rhayader, Radnorshire.
A. '80, Jan. 19 / F. '88, Apr. 16	WILLIAMS, WILLIAM HERBERT.	Llandaff, Cardiff.
1891, May 23	WILLIAMS, WILLIAM LLOYD .	24, High Street, Carnarvon.
1889, Feb. 25	WILLMOT, GEORGE DYOTT . .	6, Waterloo Street, Birmingham.
A. '82, Apr. 24 / F. '87, May 9	WILLMOT, JOHN	6, Waterloo Street, Birmingham.
1883, Dec. 17	WILSON, SIR JACOB	5, Great George Street, S.W. and Chillingham, Alnwick.
1891, Jan. 17	WILSON, STEPHEN BARTON . .	10, Basinghall Street, E C.
1881, Dec. 19	WILSON, THOMAS SILK . . .	Albert Square, Manchester.
1891, Jan. 17	WILSON, WILLIAM HENRY . .	25, Fountain Street, Manchester.
A. '84, Apr. 21 / F. '88, Mar. 19	WINDER, GEORGE ALEXANDER.	Escot Estate Office, Fairmile, Ottery St. Mary, Devon.
1882, Dec. 18	WING, WILLIAM	Caversham, Reading.
1891, Nov. 4	WINN, THOMAS	5, Park Lane, Leeds.
1891, Jan. 17	WINTERTON, HARRY JOHN CAMPION	St. Mary's Chambers, Lichfield.
1891, Jan. 17	WINTERTON, WILLIAM MOXON .	Walton Warren, Burton-on-Trent.
1891, Nov. 4	WISE, CHARLES DACRES . .	Toddington, Winchcomb, Glos.
1891, Mar. 14	WITHALL, LATHAM AUGUSTUS .	Suffolk House, Laurence Pountney Hill, E.C.
1868, Jun. 15	WITHALL, RICHARD AUGUSTUS .	29, Great George Street, S.W.
1891, May 23	WOLFENDEN, THOMAS . .	54, Hall Street, Southport, Lancashire.
1891, Nov. 4	WOLLEY, THOMAS JOHN . . .	Clungunford Estate Office, Aston-on-Clun, Salop.
A. '90, Nov. 22 / F. '91, May 25	*WOOD, CHARLES BRUCE. . .	37, Irene Road, Parson's Green, S.W.
1868, Jun. 15	WOOD, FREDERICK	34, Regency Square, Brighton.
A. '79, Mar. 17 / F. '91, July 6	WOOD, HENRY	97, Gresham Street, E.C.
1888, Mar. 19	WOOD, JOHN DANIEL . . .	19, Mount Street, W.
1885, Feb. 23	WOOD, WILLIAM	Ifield Court, Crawley, Sussex.
1891, Mar. 14	WOOD, WILLIAM	Cooling Castle, near Rochester, Kent.
1890, Nov. 22	WOODBRIDGE, STEPHEN, JUN. .	210, High Street, Brentford.
1890, Nov. 22	WOODFORDE, LIONEL BURNET .	Merton, Thetford, Norfolk.
1882, Dec. 18	WOODHAMS, JAMES	50, Havelock Road, Hastings.
1890, Nov. 22	WOODHEAD, WILLIAM BOOTH .	18, Exchange Buildings, Bradford.
1891, May 23	WOODMAN, THOMAS FOSTER .	32, St. Peter Street, St. Albans.
1881, Dec. 19	WOODS, HENRY	19 & 20, Walbrook, E.C.
1891, May 23	WOODS, THOMAS	4 and 5, Church Parade, Hounslow, Middlesex.
1891, Nov. 4	WOODTHORPE, EDMUND . . .	1, Circus Place, E.C.
A. '82, Jan. 16 / F. '90, Apr. 14	WOODWARD, WILLIAM . . .	7, Duke Street, Adelphi, W.C.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
2440	1891, Nov. 4	Wooler, Walter Hernaman .	Waterloo Street, Weston-super-Mare.
2049	1891, Mar. 14	Woolley, John Turton . .	Salisbury, Wilts.
613	1881, Feb. 21	Woolley, Reginald. . . .	Silver Street, Lincoln, and South Collingham Newark, Notts.
427	A. '76, Feb. 7 F. '80, Nov. 8	Woolley, Thomas Cecil Smith	South Collingham, Newark, Notts.
267	A. '71, Nov. 13 F. '77, Jan. 29	Woolley, William Edward .	Loughborough, Leicestershire.
1876	1890, Nov. 22	Wordsworth, Robert Walter	Whitemoor, Ollerton, Notts.
680	A. '81, Dec. 19 F. '87, Jan. 10	Wreathall, Robert T. . .	The Vestry Hall, St. Martin's Place, Trafalgar Square, W.C., and Manor House, Greenhill Harrow.
2441	1891, Nov. 4	Wrennall, William . . .	9, Harrington Street, Liverpool.
2442	1891, Nov. 4	Wright, Charles William .	Wollaton, Notts.
2443	1891, Nov. 4	Wright, George Thomas Green,	3, Great Winchester Street, E.C.
1200	1884, May 26	Wright, James	Irongate, Derby.
2444	1891, Nov. 4	Wright, James	Rawcliffe, near Selby, Yorkshire.
1521	1888, Dec. 10	Wright, Thomas	Post Office Terrace, Cambridge.
283	1872, Apr. 22	Wright, William	Wollaton, Nottinghamshire.
292	1872, Dec. 9	Wright, William Edward .	King's Lynn, Norfolk.
1749	1890, Feb. 24	Wrightson, Arthur Frederick	26, Budge Row, E.C.
722	1882, Jan. 30	Wyatt, Oliver Newman . .	East Street, Chichester.
1120	1884, Mar. 10	Wyley, Henry James . . .	Bridgnorth, Shropshire.
1227	1884, Dec. 8	Wyley, William John . .	2, School Chambers, Shrewsbury.
2445	1891, Nov. 4	York, Henry	Local Board Offices, Town Hall, Teddington.
599	A. '81, Jan. 10 F. '91, Jan. 5	Young, Andrew	London County Council, 17, Spring Gardens, S.W.
2493	1892, Feb. 26	Young, Charles.	Alton, Hants.
1830	1890, May 29	Young, Douglas	62, King William Street, E.C.
2446	91, Nov. 4	Young, Edward Herbert . .	Central Buildings, North John Street, Liverpool
524	A. '78, Dec. 9 F. '91, Feb. 2	Young, Morgan Henry . . .	17, Southampton Street, Bloomsbury Square, W.C.
2447	1891, Nov. 4	Young, Oswald William . .	Mersey Docks and Harbour Board, Liverpool.
2448	1891, Nov. 4	Young, Thomas	6, Warwick Court, Gray's Inn, W.C.

Total number of Fellows, 1,644.

Professional Associates.

The names of those Professional Associates who have qualified for the Class by Examination are distinguished thus *

The names of those Professional Associates who have further qualified by Examination for, but have not yet been transferred to, the Class of Fellows, are distinguished thus ¶

Date of Election.		
1891, Nov. 4	*Abrams, Benjamin Percy	Dudley Mansion, 29, Abbey Road, St. John's Wood, N.W.
1889, Nov. 25	*¶Anscombe, Ernest	9, Thurlow Terrace, Maitland Park, N W.
1890, Nov. 22	*Armytage, Francis Reginald	Windsor House, Shrewsbury.
1885, Dec. 7	*Arnott, John	Church Street, Woodbridge, Suffolk.
1890, Feb. 24	*†Assiter, Harry G.	207, Brixton Road, S.W.
1890, Nov. 22	*¶Aylen, Cecil Hugh	65, Torrington Square, W.C.
1885, Dec. 7	*Baker, Cecil Cautley	21, Bedford Row, W.C.
1879, Dec. 8	Balding, Albert	Barkway, Herts.
1888. Dec. 10	*Ball, James Benjamin	Engineer's Office, Great Northern Railway, King's Cross, N.
1884, Feb. 25	Ballard, William Washington	9, Craig's Court, Charing Cross, S.W.
1890, Nov. 22	*Bancroft, Frederick Herbert	Kay's Chambers, 26, Cooper Street, Manchester.
1890, Nov. 22	*Barclay, Thomas	Arncliffe, Moseley, Birmingham
1885, Jan. 26	*Barratt, Harry	Hill View, Corser Street, Stourbridge, Worcestershire.
1891, Nov. 4	*Barton, Ernest Wilfred Edwards	The Elms, Winchester.
1887, Dec. 19	*Bateman, Arthur Charles	Oriel House, Witney, Oxon.
1881, May 16	Beadel, Henry Grant	97, Gresham Street, E.C.
1890. Nov. 22	*Beadel, Maurice Frederick	97, Gresham Street, E.C.
1891, Nov. 4	*Beasley, John Arthur Llewellyn	Pineleigh, Narborough Road, Leicester.
1889, Feb. 25	*Belcher, Edward John	Wantage, Berks.
1889, Dec. 9	*Bellingham, Archibald Turner	Dovers Green, Reigate, Surrey.
1875, Feb. 1	Bidwell, Shelford	Estates Office, Drayton Manor, Tamworth.
1885, Dec. 7	*Blundell, Harry	Manchester, Sheffield, and Lincolnshire Railway, Engineer's Office, Manchester.
1884. May 5	Blunt, Herbert Arthur Scawen	Bell Street, Reigate, Surrey.
1890. Nov. 22	*Body, Arthur	Old Town Chambers, Plymouth.
1884. May 5	Bond, Frederick George	Old Bank House, Ipswich.
1886, Dec. 6	*Bousfield, Edwin Vaughan Davenport	99, Gresham Street, E.C.
1891, May 23	*Bowden, Ernest Newton	14, Ridgefield, John Dalton Street, Manchester.

† Special Sanitary Science Certificate, 1892.

PROFESSIONAL ASSOCIATES.

Dip. No.	Date of Election.		
2134	1891, May	23	*Bowden, John Friendship . .
1523	1888, Dec.	10	*Bower, Arthur Wentworth Chivers . . . . .
1524	1888, Dec.	10	*Brady, Ralph Hollinshed .
1965	1891, Jan.	17	*Brevetor, Thomas . . . .
1663	1889, Dec.	9	*Bridgford, Leo Appleton . .
1374	1887, Feb.	21	*Briggs, John . . . . .
1073	1884, Jan.	28	Brown, Alexander . . . .
2135	1891, May	23	*Brown, Alexander Burnett .
1664	1889, Dec.	9	*Brown, Arthur Macdonald .
847	1882, Dec.	18	Brown, William Arthur . .
1410	1887, Dec.	19	*Brown, William Edward . .
2136	1891, May	23	*Buckland, Sidney Crawford.
944	1883, May	21	Buckland, William Thomas .
1691	1890, Jan.	6	*Bulbeck, George . . . .
1412	1887, Dec.	19	*Buss, Fleetwood George William. . . . .
1160	1884, May	5	Butterworth, Josiah . . .
1333	1886, Dec.	6	*Callendar, William Jackson
1334	1886, Dec.	6	*Campbell, Colin . . . .
799	1882, Apr.	24	Card, Henry . . . . .
249	1870, Dec.	12	Cardall, Frederic William .
2452	1891, Nov.	4	*Carr, Thomas Edmund. . .
1413	1887, Dec.	19	*Carter, Alfred Presley . .
2137	1891, May	23	*¶Castle, Harold . . . .
1572	1889, Jan.	28	*Chalcraft, Henry Terrell .
1006	1883, Dec.	17	Chapman, Vaughan Godfrey St. John . . . . .
1525	1888, Dec.	10	*Cheney, Edwin John . . .
1121	1884, Mar.	10	Chester, William Richard .
1526	1888, Dec.	10	*Child, Edmund Herbert. .
426	1876, Feb.	7	Clayden, Walter . . . . .
1285	1885, Dec.	7	*Coales, Herbert George. .
1885	1890, Nov.	22	*Cobham, George William . .
1665	1889, Dec.	9	*‡Colbourn, Henry James . .
1202	1884, May	26	Collier, Arthur Charles .
1881	1890, May	29	*Collyer, Daniel William .
320	1874, Jan.	5	Cooke, William George . .
1966	1891, Jan	17	*Cope, Henry James . . .
747	1882, Feb.	13	Cowper, Richard William. .
222	1870, Jan.	10	Crawley, William Jeeves . .

3, Gloucester Villas, Newport, Barnstaple, Devon	
Estate Office, Bretby, Burton-on-Trent.	
17, Warren Street, Stockport, Cheshire.	
Fillmore, Ventura County, California, U.S.A.	
28, Cross Street, Manchester.	
London County Council, Spring Gardens, S.W.	
Home Farm, Hothfield, Ashford.	
The Bays, Hampton Wick.	
Tring, Herts.	
146, Goswell Road, E.C.	
Reading Villa, Denmark Road, Watford, Herts	
Windsor, Berks.	
9, Whitehall Place, S.W.	
22, Sussex Street, S.W.	
37, South Hill Park, Hampstead, N.W.	
Mansfield, Notts.	
Post Office, Maryborough, Queensland, Australia	
Bretby, near Burton-on-Trent.	
North Street, Lewes, Sussex.	
9, Whitehall Place, S.W.	
Moor Monkton Rectory, York.	
185, Tottenham Court Road, W.	
9, Canterbury Road, Oxford.	
6, Bishopsgate Street Without, E.C.	
82, Queen Street, E.C.	
Daydon Lodge, Bruton, Somerset.	
39, New Broad Street, E.C.	
47, Bernard Street, Russell Square, W.C.	
6, Moorgate Street, E.C.	
Market Harborough Local Board Offices, Market Harborough.	
3, Edwin Street, Gravesend, Kent.	
6, Russell Street, Reading.	
4, Frederick's Place, E.C.	
Sharples Hall, Bolton-le-Moors, Lanc.	
35, Walbrook, E.C.	
202, Clapham Road, S.W.	
81, High Street, Sittingbourne, Kent.	
Sayesbury, Sawbridgeworth, Herts.	

‡ Special Forestry Certificate, 1890.

Date of Election.		PROFESSIONAL ASSOCIATES.	
1891, Nov.	4	*Crawshay, Lionel Ruttledge	5, Imperial Buildings, St. Mary Street, Llandaff, Cardiff.
1881, Mar	21	Cresswell, John Theodore Ross	9, Whitehall Place, S.W.
1891, Nov.	4	*Crier, John Thomas	2, Surreyville Gardens, Barnes.
1886, Dec.	6	*Crosland, Walter	Estate Office, Buscot Park, Faringdon, Berks.
1891, May	23	*Cross, Arnold Charles Martin	69, Brailsford Road, Tulse Hill, S.W.
1883, Feb.	12	Cross, John	80, Cheapside, E.C.
1889, Jan.	4	*Crouch, James Leonard	50, Gresham Street, E.C.
1879, Mar.	17	Cudlipp, William	33, Poultry, E.C.
1883, Jan.	29	Cumberbatch, Carlton Parry	9, Whitehall Place, S.W.
1883, May	21	Daffarn, Thomas Alfred	6, Spring Gardens, S.W.
1882, Jan.	30	Dansie, Frederick Crown	51, Long Lane, Smithfield, E.C.
1875, Apr.	26	Dashwood, Frederick Loftus	Kirtlington, Oxford.
1888, Dec.	10	*¶Davey, Henry Thomas	34, Cambridge Gardens, Hastings.
1891, May	23	*Davis, Neville Brookes	Waterworks Office, Leicester.
1883, Dec.	17	Dawson, Walter Henry	65, King Street, Manchester.
1891, May	23	*Debenham, Horace Bentley	80, Cheapside, E.C.
1889, Dec.	9	*¶Dendy, William Cooper	46, Fordwych Road, Brondesbury, N.W.
1888, Dec.	10	*Dixon, Francis Edward	Local Board Offices, Bamber Bridge, Walton-le-Dale, near Preston.
1882, Feb.	13	Drew, Allen	80, Cheapside, E.C.
1890, Jan.	6	*¶Dudley, Edgar	The Yews, Kenley, Surrey.
1884, Dec.	8	*Dunning, Bernard Simon	51, Denbigh Street, S.W.
1869, Jun.	28	Easton, Edward	9, Delahay Street, S.W.
1883, Dec.	17	Ellis, Charles Godwin	2 & 3, Abchurch Yard, E.C.
1890, Nov.	22	*Ellis, Francis, Jun.	Trafford Park, Patricroft, near Manchester.
1884, Jan.	14	Evans, Tom Augustus John	3, Old Palace Yard, S.W.
1889, Jan.	14	*¶Eves, William Lionel	Milton House, Uxbridge.
1881, Feb.	7	Few, Harry Garrard	3, Upper Richmond Road, Putney, S.W.
1891, Nov.	4	*Finn, Herbert Archibald	Sole Street House, near Faversham, Kent.
1884, Mar.	10	Fitness, John Francis	80, Cheapside, E.C.
1883, April	2	Fletcher, George Rivers	2, Basinghall Street, E.C.
1890, Nov.	22	*Forrest, William	Windsor Estate Office, St Fagans, Cardiff.
1890, Mar.	24	*Forster, Walter Hill	Queen Street, Tombland, Norwich.
1888, Dec.	10	*¶†Foster. Frank	37, Gower Street, W.C.
1891, Nov.	4	*Franklin, Benjamin Belgrove	Holly Walk, Luton, Beds.
1891, Jan.	17	*Fraser, William	209, St. Vincent Street, Glasgow.
1882, Feb.	13	Furber, Henry Aubrey	42, Marlborough Hill, N.W.

† Special Sanitary Science Certificate, 1892.

Dip. No.	*Date of Election.*	PROFESSIONAL ASSOCIATES.	
1693	1890, Jan. 6	*Galsworthy, Vincent Somers.	8, Queen's Gate, Hyde Park, W.
1889	1890, Nov. 22	*¶Garrard, Arthur Norman .	66, Cannon Street, E.C.
702	1882, Jan. 16	Garrod, Herbert James . .	The Denne, Reigate, Surrey.
1668	1889, Dec. 9	*¶Giddy, Osman Horton . .	121, Pall Mall, S.W.
1890	1890, Nov. 22	*Goddard, Alexander . . .	Knighton Spinneys, Leicester.
1386	1887, Mar 21	*Golightly, Charles Hugh .	West Parley Rectory, Wimborne, Dorset.
956	1883, May 25	Gore, William Joll . . .	22, Conduit Street, W.
1096	1884, Feb. 11	Gow, James	9, Whitehall Place, S.W.
1669	1889, Dec. 9	*Grant, Joseph	88, Lansdown Road, Croydon.
1891	1890, Nov. 22	*¶Green, Alexander Ernest .	Kingsdown Lodge, 10, The Common, Ealing,
2141	1891, May 23	*Green, Edmund Horace . .	28 and 29, St. Swithin's Lane, E.C.
1012	1883, Dec 17	Green, James Henry Townsend	22, Chancery Lane, W.C.
1418	1887, Dec. 19	*Green, Thomas John . . .	1, Surrey Villas, Sevenoaks, Kent.
1230	1884 Dec 8	*Greenop, Edward	74, Bonham Road, Brixton Rise, S.W.
1532	1888, Dec. 10	*Grimes, Ralph Fearon . .	Thurleigh House, 6, Nightingale Lane, Claphs Common, S.W.
1076	1884, Jan. 28	Grimwade, Henry	Colchester, Essex.
1727	1890, Feb. 10	*¶Grover, Arthur	East Lynn, Woodberry Down, N.
1550	1889, Jan. 14	*Gunter, James	Estate Office, Glasbury, Radnorshire.
1670	1889, Dec. 9	*¶Hadley, Frank	Cambridge Road, Moseley, near Birmingham.
1231	1884, Dec. 8	*Halkyard, William Redford .	Oakfield Styal Road, Wilmslow, Cheshire.
1179	1884, May 19	Hall, Charles Pell . . .	Park Farm Office, Woburn, Beds.
1338	1886, Dec. 6	*Halton, Harry Russell . .	199, Church Street, Toronto, Canada.
770	1882, Feb. 27	Hamilton, John Paynter . .	64 and 65, Coleman Street, E.C.
2143	1891, May 23	*Hampton, George Frederick William	1, Cockspur Street, S.W.
1419	1887, Dec. 19	*Harding, Frederick Allcroft	60, Queen Victoria Street, E.C.
614	1881, Feb. 21	Harper, Edgar Josiah . .	Estate Office, London County Council, Spri Gardens, S.W.
1672	1889, Dec. 9	*¶Haslam, Dryland, Jun. . .	Warren House, Caversham, Reading.
1968	1891, Jan. 17	*¶Hayward, Frederick George	Market Square, Dover, Kent.
1287	1885, Dec. 7	*Hebblethwaite, Chas. Henry	235, Alpha Place, Norwich Road, Ipswich.
1014	1883, Dec. 17	Hebden, George Radcliffe .	66, Cannon Street, E.C.
588	1880. Dec. 13	Hedger, Arthur Constantine	44, Charing Cross, S.W.
1573	1889, Jan. 28	*Henderson, Harry Gilbert .	Franche Villa, Franche, Kidderminster.
1353	1887, Jan. 10	*Henderson, Richard . . .	Portland Estate Office, Kilmarnock.
928	1883, April 16	Henry, Edward Hugh. . .	63, High Street, Clapham, S.W.
850	1882, Dec. 18	Hewitt, William	Penn Grove, Aylstone Hill, Hereford.
948	1883, May 21	Hicks, Stanley	10, Lincoln's Inn Fields, W.C.
1339	1886, Dec. 6	Hill, Alfred	Burma Club, Rangoon.
1015	1883, Dec. 17	Hinchliffe, John, Jun. . .	Bullhouse Hall, Penistone, Sheffield.

Date of Election.	PROFESSIONAL ASSOCIATES.	
1890, Nov. 22	*Hodgkinson, James Henry .	2, Ashlynne, Mossley Road, Ashton-under-Lyne.
1884, May 19	Hodsoll, William, Jun. . .	188, Parrock Street, Gravesend, and Farningham, Kent.
1883, Feb. 26	Holbeche, Æmilian Henry .	Weston Cottage, Park Road, Loughborough.
1891, Nov. 4	*Hollis, Herbert	Potosi, Battè P.O., Jamaica.
1891, Nov. 4	*Hollis, Ralph	Springfield, Skirlaugh, Hull.
1883, Jan. 29	Holmes, James Thomas . .	97, Gresham Street, E.C.
1889, Feb. 25	*Homan, Hubert Franklin . .	146 and 147, Eastgate, Rochester, Kent.
1884, May 19	Hooper, Alfred Frederick .	1, Laura Villas, London Road, Andover, Hants.
1888, Jan. 23	*Hooper, Cecil Henry . . .	Elmleigh, Beckenham, Kent.
1884, Jan. 14	Hopkins, Edwin	9, Whitehall Place, S.W.
1883, Jan. 15	Howell, Ernest John . .	116, Cromwell Road, S.W.
1890, Nov. 22	*Innes, Gilbert Plantagenet Mitchell	The Farm, Preston Hall, Aylesford, Kent.
1879, Nov. 24	Jessett, Charles	62, Old Broad Street, E.C.
1891, Nov. 4	*Jessett, Charles Edward Vernon	4, Freke Road, Lavender Hill, S.W.
1870, Jan. 24	Johnston, Andrew	97, Gresham Street, E.C.
1887, Dec. 19	*Johnston, Walter Henry. .	County Offices, Auditors' Department, Preston.
1887, Feb. 21	*Jonas, Samuel Marshall . .	39, New Broad Street, E.C.
1883, Dec. 17	Jordan, George Henry . .	16, Whitehall Place, S.W.
1891, Nov. 4	*Joyce, Harry Ward . . .	9, Tipping Street, Stafford.
1886, May 17	*Jull, William Vincent . .	"Westerdale," Mowbray Road, Upper Norwood.
1890, Nov. 22	*Kay, Walter Robert . . .	Mount Sion House, Bury, Lancashire.
1889, Dec. 9	*Kaye, Edward Percival . .	Bretton Lodge, Wakefield.
1884, May 5	Keeling, Gilbert	2, Tokenhouse Buildings, Lothbury, E.C.
1883, Jan. 29	Keer, William	35, Walbrook, E.C.
1890, Nov. 22	*¶Kemp-Smith, James Frederick	Orsett, Essex.
1884, Jan. 28	Kerr, Arthur Herbert . .	Blake Street, York.
1887, Mar. 21	*King, William Isaac . . .	The Grange, Highgate, N.
1891, Jan. 17	*Lansdown, George Arthur .	67, New Kent Road, S.E.
1891, Mar. 14	*Larkin, Richard Webster .	Cowley House, Cavendish Road, Balham, S.W.
1892, Feb. 26	*Lawley, Frederick William .	165, Strand, W.C.
1891, Jan. 17	*Leaning, Henry John . . .	60, Holland Road, Brixton, S.W.
1876, Apr. 3	Lee, George Cansfield . .	North Eastern Railway, York.
1887, Jan. 10	*Lee, John Wilfrid . . .	Vestry Hall, Hampstead, N.W.
1891, May 23	*Leverton, Frank John Waldemar	H.M. Office of Works, S.W.

PROFESSIONAL ASSOCIATES.

Dip. No.	Date of Election.		
1971	1891, Jan. 17	*Lewis, Arthur Llewelyn . .	12, Arminger Road, Shepherd's Bush, W.
1143	1884, Apr. 21	Lightfoot, John George . .	9, Whitehall Place, S.W.
2462	1891, Nov. 4	*Longsdon, Ernest Morewood	Town Hall, Bakewell.
1183	1884, May 19	Lovesay, William	4, Frederick's Place, E.C.
1355	1887, Jan. 10	*Lowe, Charles Robert . .	95, Park Street, Grosvenor Square, W.
489	1877, May 14	Lucas, Joseph	21, Defoe Road, Tooting Graveney, S.W.
1676	1889, Dec. 9	*Lumley, Julian Arthur . .	35, St. James' Street, S.W.
1204	1884, May 26	Lynch, James Henry . . .	302, Regent Street. W.
1144	1884, Apr. 21	McCallum, Peter Service .	Midland Railway, Derby.
1554	1889, Jan. 14	*¶Mann, Robert Bagshaw . .	29, Great George Street, S.W.
1555	1889, Jan. 14	*Martin, Heber Gambling . .	Highfield House, Littleport.
1533	1888, Dec. 10	*¶Martin, Thomas	North Place, Redbourn, Herts.
1677	1889, Dec. 9	*Mason, Charles William Hayley	Surveyor's Office, South Eastern Railway, Lond Bridge, S.E.
1308	1886, Feb. 22	*Mead, John Henry . . .	9, Whitehall Place, S.W.
1447	1888, Jan. 23	*¶Melrose, Frank	4, Whitehall, S.W.
1145	1884, Apr. 21	Merrett, James.	9, Whitehall Place, S.W.
1972	1891, Jan. 17	*¶Merry, Arthur Walker .	Southcourt Farm, Leighton Buzzard.
752	1882, Feb 13	Milnes, Robert, Jun. . . .	Ann's Cottage, Alpha Road, The Elms, Ramsga Kent.
2463	1891, Nov. 4	*¶Mitchell, George Sharman	Upper Adhurst, Petersfield, Hants.
1973	1891, Jan. 17	*Molyneux, Herbert Ernest .	Sefton House, Cazenove Road, Stamford Hill,
1534	1888, Dec. 10	*Morgan, Alfred Walker .	Engineer-in-Chief's Office, Survey Departme Spencer Telegraph and Railway Station, M bourne, Australia.
2464	1891, Nov. 4	*Moses, Henry	25, South Audley Street, W.
1895	1890, Nov. 22	*¶Mould, Graham Harley .	25, Great James Street, Bedford Row, W.C.
678	1889, Dec. 9	*Muir, James	The Yorkshire College, Leeds.
1974	1891, Jan. 17	*Nockolds, Alfred George .	Castle Hill House, Saffron Walden, Essex.
1556	1889, Jan. 14	*Nockolds, Martin Charles Hubert	Saffron Walden, Essex.
1128	1884, Mar. 10	Norris, Edward James . . .	41, Kennington Park Road, S.E.
2465	1891, Nov. 4	*Oakley, Christopher Percival	10, Waterloo Place, S.W.
1975	1891, Jan. 17	*¶Oakley, John Hubert . .	10, Waterloo Place, S.W.
1976	1891, Jan. 17	*¶Ogden, Michael Guy . . .	34, High Street, Wimbledon, Surrey.
1896	1890, Nov. 22	*¶Osenton, George, Jun. . .	Netley Lodge, Lumley Road, Horley, Surrey.
781	1882, Mar. 13	Page, Thomas Gowland . .	57, Coleman Street, E.C.
966	1883, May 25	*¶Pain, James	Borough, Micheldever, Hants.

Date of Election.	PROFESSIONAL ASSOCIATES.	
1888, Dec. 10	*¶Palamountain, Joseph William	Corra, Whitchurch, Salop.
1892, Feb. 26	*Palmer, William Edward King	Huntingdon Lodge, New Maldon, Surrey.
1889, Dec. 9	*¶Parris, Charles John . . .	8, Lancaster Park, Richmond, S.W.
1890, Nov. 22	*Partridge, Edward John . .	7, Crumpsall Villas, Selwyn Court, Richmond, S.W.
1887, Feb. 21	*Paterson, Andrew Thompson	4, Hamilton Place, Totton, Southampton, Hants.
1875, May 10	Payne, William Percy . .	Holmesdale, The Park, Nottingham.
1882, Dec. 18	Peace, Alfred Lindley . .	Thorne, Doncaster.
1884, Apr. 21	Pearce, Frederick William .	9, Whitehall Place, S.W.
1884, May 5	Pearce, William John . .	4, Frederick's Place, E.C.
1887, Jan. 10	*Pelham-Clinton, Hubert Edward	Moor Court, Stroud, Gloucestershire.
1890, Nov. 22	*Perkins, Joseph	Claverdon, Willow Road, Balsall Heath, Birmingham.
1887, Apr. 18	*Perks, Sydney	28, Dover Street, Piccadilly, W.
1884, Jan. 28	*Petre, Robert George . .	Springfield, Chelmsford, Essex.
1883, Dec. 17	Pewtress, Herbert Wilmshurst	22, Chancery Lane, W.C.
1884, Mar. 19	Phillips, George Cawkwell .	Mildmay Road, Chelmsford, Essex.
1884, Jan. 28	Phillips, John Henry . . .	130, Mount Street, Berkeley Square, W.
1888, Jan. 23	*Phillips, William Dearlove .	High Wycombe, Bucks.
1886, Dec. 6	*Physick, Walter Frederick .	95, Park Street, Grosvenor Square, W.
1890, Nov. 22	*Pinder, Richmond	49, Upper Baker Street, N.W.
1892, Feb. 26	*Pochin, Thomas Clement . .	Braunston Hall, Leicester.
1892, Feb. 26	*Poggio, Eloi John	Surveyor's Department, Public Offices, Dyue Road, Kilburn, W.
1891, Jan. 17	*Potter, Herbert George . .	22, High Street, Hampstead, N.W.
1890, Nov. 22	*Prall, Herbert Edward . .	Joyce Green Farm, Dartford, Kent.
1886, Dec. 6	*Prater, Thomas Herbert .	Farnborough, Banbury.
1888, Dec. 10	*¶Preston, Samuel David . .	Park Farm, Woburn, Beds.
1884, Feb. 11	Pridham, John Lawrence . .	Paignton, South Devon.
1889, Dec. 9	*Puckridge, Percival Martin .	Haybrook, Oare, near Marlborough, Wilts.
1890, Jan. 6	*¶Punchard, Frederick Burt	Naworth Estate Office, Brampton, Cumberland.
1885, Dec. 7	*Rand, John	Estate Agency Offices, Haverhill, Suffolk.
1883, Jan. 29	Rigden, Charles Furner . .	The Pines, Maybury Heath, Woking, Surrey.
1882, Feb. 13	Roberts, Charles Gordon . .	42, New Broad Street, E.C.
1892, Feb. 26	*Robins, Philip Seymour . .	5, Waterloo Place, S.W.
1887, Dec. 19	*Robinson, Alfred Whitmore .	Watkins Wharf, Uxbridge.
1891, Nov. 4	*Robinson, Henry Herbert .	34, Heathfield Park, Willesden Green, N.W.
1882, Jan. 30	Robinson, James Thomas . .	7, John Street, Adelphia, W.C.
1882, Apr. 24	Robinson, Martin Catlin . .	Wenden, Saffron Walden, Essex.
1884, Mar. 10	Rose, Edward Joseph . . .	1, Narham Road, Oxford.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
1081	1884, Jan. 28	Ross, David James	Surveyors' Office, Guildhall, E.C.
1695	1890, Jan. 6	*Rowley, William Taylor. .	Royston, Cambridgeshire.
1901	1890, Nov. 22	*Ruddle, Frank J.	London County Council, Spring Gardens, S.W.
1024	1883, Dec. 17	Sabin, Joseph Henry . . .	16, Whitehall Place, S.W.
		(*Professional Associate of Council*)	
1233	1884, Dec. 8	*¶Sadler, George William, Jun.	Duchy of Lancaster Office, Lancaster Place, W.
1424	1887, Dec. 19	*Salt, Reginald Nowell . .	Quarry Place, Shrewsbury.
971	1883, May 25	*Satchell, Charles . . .	San José, Costa Rica, Central America.
1728	1890, Feb. 10	*Satchell, Herbert Arnold .	3, Verulam Buildings, Gray's Inn, W.C.
1696	1890, Jan. 6	*¶Saunders, Charles Herbert	40, Gloucester Road, S.W.
1147	1884, Apr. 21	Saunders, Samuel Brown. .	Estate Office, L. & S. W. Ry., Waterloo Station, S.E.
1902	1890, Nov. 22	*¶Savill, Edwin	39, New Broad Street, E.C.
1148	1884, Apr. 21	Scarlett, Harry	Preston House, Firle, Lewes, Sussex.
2468	1891, Nov. 4	*Sedgwick, Rupert William .	38, High Street, Watford.
1729	1890, Feb. 10	*Selby, Frank	3, Staple Inn, Holborn, W.C.
1234	1884, Dec. 8	*Selby, John Baseley . . .	Atherton Hall, Leigh, near Manchester.
572	1880, Feb. 16	Sexby, John James	London County Council, Spring Gardens, S.W.
1425	1887, Dec. 19	*Shaw, Arthur	Ramsden Estate Offices, Railway Street, Huddersfield.
1149	1884, Apr. 21	Sherry, Nathaniel. . . .	45, Fenchurch Street, E.C.
1082	1884, Jan. 28	Skewis, Edwin	11, Barrowgate Road, Chiswick, W.
858	1882, Dec. 18	Skingle, Alfred	29, Fleet Street, E.C.
1050	1884, Jan. 14	Slade, Isaac	96, Queen Street, E.C.
1903	1890, Nov. 22	*¶Slater, Charles Frederick	21, Ellirker Gardens, Richmond Hill, S.W.
538	1879, Mar. 17	Smith, George Cecil . . .	16, Whitehall Place, S.W.
2052	1891, Mar. 14	*Smith, James	Town Hall, Hackney, E.
152	1868, Nov. 9	Smyth, Edward	9, Whitehall Place, and 52, Wiltshire Road, Brixton, S.W.
		(*Professional Associate of Council*)	
1905	1890, Nov. 22	*Snallum, Walter Wadman .	Market House, Trowbridge, Wilts.
2499	1892, Feb. 26	*Soutter, Ernest	The Paddocks, Guildford, Surrey.
1906	1890, Nov. 22	*Spelman, William Wilton Rix	Ivy House, Eaton, Norwich.
868	1883, Jan. 15	Stacey, William	80, Cheapside, E.C.
1697	1890, Jan. 6	*Stainton, Francis Charles .	6, Great College Street, S.W.
911	1883, Mar. 19	Stenning, Percy Haines . .	4, Abchurch Yard, E.C.
710	1882, Jan. 16	Stevenson, Frederick J. . .	4, Frederick's Place, E.C.
828	1882, Dec. 4	Stower, Joseph	29, Fleet Street, E.C.
1578	1889, Feb. 11	*Stucké, William Henry . .	1, Park View, Tivcli, Cheltenham.
1235	1884, Dec. 8	*Sturge, Theodore	34, Corn Street, Bristol.
1296	1886, Jan. 11	*Sturgess, John Moore . .	Penshurst Park, near Tunbridge, Kent, and Cockspur Street, Charing Cross, S.W.

Date of Election.	PROFESSIONAL ASSOCIATES.	
1890, Jan. 27	*Sturley, Arthur Dyson . .	55, Marquess Road, Canonbury, N.
1891, Jan. 17	*Summerfield, Joseph Charles	Whitehall Court, S.W.
1882, Feb. 13	Swinscow, Harold Edwin . .	31, Streatham Hill, S.W.
1882, Apr. 24	Tarleton, Roger	4, Market Street, Northwich, Cheshire.
1869, Jul. 26	Taylor, George.	Hillside House, Turner's Hill, Crawley, Sussex, and 17, Abchurch Lane, E.C.
1891, Nov. 4	*Temple, Frederick Wilson .	27, Sandgate Road, Folkestone.
1883, Dec. 17	Thompson, Alfred	Estate Department, South Eastern Railway, London Bridge, S.E.
1883, Jan. 15	Thornton, William Henry .	Castle Keep, Reigate, Surrey, and The Surveyor-General's Department, Ceylon.
1892, Feb. 26	*Thurgood, Albert Edward .	Hullbrook, Shamley Green, Guildford, Surrey.
1884, Feb. 11	Thurgood, Ernest Charles .	27, Chancery Lane, W.C.
1888, Dec. 10	*Tilly, Hubert Douglas . .	9, Craufurd Rise, Maidenhead, Berks.
1891, Jan. 17	*Townsend, George James . .	London County Council, Spring Gardens, S.W.
1891, Nov. 4	*Tuckett, Percival Fox . .	2, Basinghall Street, E.C.
1884, Jan. 14	Tudor, Edward Charles Buchanan	West House, Booth Ferry Road, Goole, Yorkshire.
1887, May 23	*Turner, Percy	7, Lower Brook Street, Ipswich, Suffolk.
1890, Jan. 6	*Tyler, James William . .	Elm Villa, Trinity Road, Upper Tooting, S.W.
1884, May 5	Udny, Augustus Charles .	142, Springfield Road, Brighton.
1889, Feb. 25	*Vale, Henry	25, Darlington Street, Wolverhampton.
1890, Nov. 22	*Verity, Ernest George . .	11, Jermyn Street, S.W.
1888, Feb. 20	*Wade, Henry	10, Pitt Street, Barnsley.
1890, Jan. 6	*Wain, George Sparrow .	10, Portugal Street, Lincoln's Inn. W.C., and Town Hall Buildings, West Brighton, Sussex.
1891, Nov. 4	*¶Walker, Joseph Arthur .	Ashton Court Estate Office, Long Ashton, Clifton, Bristol.
1880, Mar. 1	Walker, Leon Victor . . .	79, Dunsmure Road, Stamford Hill, N.
1883, Dec. 17	Wallis, John David . . .	41, Spring Gardens, Manchester.
1887, Dec. 19	*Warton, Wilfred	27, Southampton Buildings, Chancery Lane, W.C.
1883, Dec. 17	Waterer, Clarence . . .	Dover House, Chertsey, Surrey.
1891, Jan. 17	*Watson, Claude Henry . .	Barnstaple, Devon.
1890, Feb. 24	Watson, George . . .	45, Parliament Street, S.W.
1884, Dec. 8	*Watson, James Bruce . . .	Brightwell, Tetsworth, Oxon.
1885, Dec. 7	*Watson, John, Jun. . . .	Wentbridge Lodge, Pontefract, Yorkshire.
1888, Dec. 9	*Watson, Richard	Plymouth Road, Totnes, Devon.
1888, Dec. 9	*Webb, Frederic Noel . .	Babraham, Cambridge.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
1908	1890, Nov. 22	*¶Webster, Hugh Calthrop .	97, Gresham Street, E.C.
1031	1883, Dec. 19	Wells, Edward Ogbourn . .	9, Whitehall Place, S.W.
930	1883, April 16	Weston, George	177, Harrow Road, Paddington, W.
941	1883, April 30	Weston, Joseph Aurelius. .	83, High Street, Bedford.
1429	1887, Dec. 19	*Whalley, Frederick Herbert	98, Church Street, Birkenhead, and 37, Pepp Street, Chester.
1430	1887, Dec. 19	*Wheeler, Charles Trevor Ogle	Mamhead Cottage, Mamhead, near Starcros Devon.
1440	1888 Jan. 9	*Wight, Norman.	Santa Catalina, Boscombe Park, Bournemout Hants.
860	1882, Dec. 18	Wilcocks, Frederick C. . .	87, Iverson Road, West Hampstead, N.W.
2146	1891, May 23	*Wilks, Ernest Stringer. .	Douglas Avenue, Hythe, Kent.
861	1882, Dec. 18	Williams, Tom	Estate Agency Office, Clarence Street, Staines.
442	1876, Apr. 3	Williams, William Welsby .	Farnham, Surrey.
1083	1884, Jan. 28	Willoughby, Charles William	22, Chancery Lane, W.C.
2472	1891, Nov. 4	*Wilson, James Calvert . .	Worsthorne Estate Office, Burnley, Lancashire
1449	1888, Jan. 23	*Wilson, William Edward . .	St. Andrew's Chambers, Albert Square, Ma chester.
2147	1891, May 23	*Windley, Henry Chadwick .	King's College, Cambridge.
1981	1891, Jan. 17	*Wood, Edward Bryan . . .	Langley Green, Chippenham, Wilts.
2501	1892, Feb. 26	*Woodward, Walter Henry .	10, Crown Villas, Kennington Oval, S.E.
1358	1887, Jan. 10	*Woolnough, John William .	Gladstone Villa, Beamsley Road, Eastbourne.
1431	1887, Dec. 19	*Worthington, James Scott .	4, Frederick's Place, E.C.
595	1880, Dec. 13	Wright, Thomas Hawkins. .	The Hermitage, Thrapstone, Northamptonshi
2473	1891, Nov. 4	*¶Young, Harry Austin Lindsay	Loseley House, West Horsley, Leatherhead.

Total number of Professional Associates, 332.

Associates.

Date of Election.		
1876, Mar. 20	Acland, Sir Thomas Dyke, Bart.	Killerton, Exeter.
1880, Dec. 13	Bankes, John Eldon . .	4, Elm Court, Temple.
1888, May 14	Barnes, George Frederick .	London County Council, Spring Gardens, S.W
1868, Jul. 27	Barry, John Wolfe . . . (*Associate of Council*)	21, Delahay Street, S.W.

ate of Election.	ASSOCIATES.	
1875, Dec. 13	BATTEN, JOHN WINTERBOTHAM	3, Harcourt Buildings, Temple.
1879, Feb. 3	BEALE, JAMES SAMUEL . . .	28, Great George Street, S.W.
1892, Feb. 26	BELLEWES, GEORGE OLIVER .	45, Parliament Street, S.W.
1891, Mar. 14	BENTHALL, EDWARD JOHN . .	65, Pevensey Road, St. Leonards-on-Sea.
1869, Feb. 22	BIDDER, GEORGE PARKER, Q.C.	3, Paper Buildings, Temple.
1875, Feb. 1	BIRCH, ROBERT WILLIAM PEREGRINE	5, Queen Anne's Gate, S.W.
1890, Jan. 6	BOULGER, GEORGE EDWARD SIMONDS	18, Ladbroke Grove, Notting Hill, W.
1868, Jun. 23	BRAMWELL, SIR FREDK. JOSEPH, BART., F.R.S.	5, Great George Street, S.W.
1884, Feb. 11	BUND, JOHN W. WILLIS. . .	15, Old Square, Lincoln's Inn, W.C.
1890, May 29	CADELL, GEORGE	14, Canning Road, Addiscombe, Surrey.
1871, Feb. 13	CASTLE, EDWARD JAMES, Q.C. .	8, King's Bench Walk, Temple.
1876, Nov. 13	CLARKE, DANIEL	Easton Street, High Wycombe, Bucks.
1891, Jan. 17	CLARKE, ERNEST	12, Hanover Square, W.
1883, Dec. 17	CLARKE, SIR EDWARD, Q.C., M.P.	5, Essex Court, Temple.
1883, Dec. 17	CLODE, WALTER	3, Harcourt Buildings, Temple.
1886, Dec. 6	CLUTTON, HUBERT SPENCER .	9, Whitehall Place, S.W.
1891, Nov. 4	COWLARD, CHRISTOPHER LETHBRIDGE	Launceston, Cornwall.
1885, Jan. 12	CRIPPS, CHARLES ALFRED, Q.C.	2, Mitre Court Buildings, Temple.
1883, April 16	DETHRIDGE, FRANK	Vestry Hall, Harrow Road, Paddington, W.
1891, Nov. 4	DOWDEN, WALTER ALFRED ALLEN	Mount Leyshon Mines, near Chartres Towers, Queensland.
1883, April 30	DRUCE, SAMUEL BENJAMIN LARGE	9, Old Square, Lincoln's Inn, W.C.
1891, Nov. 4	FORBES, ALEXANDER	3, Golden Square, Aberdeen.
1869, Feb. 22	FOWLER, SIR JOHN	2, Queen Square Place, S.W.
1886, Jan. 11	FREAM, WILLIAM	Downton, Wilts.
1878, Feb. 11	FREEMAN, GEORGE MALLOWS .	11, King's Bench Walk, Temple.
1878, Mar. 11	FRESHFIELD, EDWIN . . .	5, Bank Buildings, E.C.
1876, Mar. 20	FRESHFIELD, WILLIAM DAWES .	5, Bank Buildings, E.C.
1890, Feb. 24	GAYTON, CHARLES	Much Hadham, near Ware, Herts.
1879, Apr. 28	GEPP, CHARLES BRAMSTON OSBORNE	Chelmsford, Essex.
1874, Feb. 16	GOLDNEY, GABRIEL PRIOR . .	Remembrancer's Office, Guildhall, E.C.
1874, Jan. 5	GRANTHAM, RICHARD FUGE . .	Northumberland Chambers, Northumberland Avenue, W.C.

Date of Election.	ASSOCIATES.	
1891, Mar. 14	GROVER, JOHN WILLIAM . .	15, Victoria Street, Westminster, S.W.
1881, Dec. 19	GROVES, WILLIAM	15, Great George Street, S.W.
1880, Dec. 13	GULLY, WILLIAM COURT, Q.C., M.P.	Farrar's Buildings, Temple.
1882, Mar. 27	HAMILTON, HENRY BEST HANS .	1, Brick Court, Temple.
1884, May 5	HAMOND, THOMAS ASTLEY HORACE	62, Lincoln's Inn Fields, W.C.
1881, Dec. 19	HEAD, JOHN MERRICK . . .	Reigate, Surrey.
1875, Dec. 13	HIGGIN, WILLIAM HOUSMAN, Q.C.	32, St. Ann Street, Manchester.
1887, Jan. 24	HUDSON, ALFRED ARTHUR . .	5, Paper Buildings, Temple.
1880, Dec. 13	JAMES, SIR HENRY, Q.C., M.P. .	1, New Court, Temple.
1885, Jan. 12	JONGH, JOHN ISIDORE DE . .	San José, Costa Rica, Central America.
1887, May 23	KINCH, EDWARD	Royal Agricultural College, Cirencester.
1873, April 21	KING, WILLIAM	Gas Office, Duke Street, Liverpool.
1874, Feb. 2	LEDGARD, FREDERICK THOMAS DURELL, Q.C.	1, Temple Gardens, Temple.
1891, Nov. 4	LEWORTHY, JOHN HENRY . .	29, Fleet Street, E.C.
1874, Feb. 16	LITTLER, RALPH DANIEL MAKINSON, Q.C., C.B.	4, Temple Gardens, Temple.
1888, Mar. 5	LUARD, MAJOR-GEN. CHARLES EDWARD, R.E.	Ightham Knoll, near Sevenoaks, Kent.
1891, May 23	MALDEN, WALTER JAMES . .	Cardington, Beds.
1874, Feb. 16	MARRIOTT, THE RIGHT HON. SIR WILLIAM THACKERAY, Q.C., M.P.	6, Crown Office Row, Temple.
1886, Dec. 6	MARSHALL, FREDERICK . . .	3, Harcourt Buildings, Temple.
1891, Nov. 4	MENCE, PHILLIP ALLAN . . .	29, Fleet Street, E.C.
1879, Jan. 6	MEYSEY-THOMPSON, ALBERT CHILDERS	41, Parliament Street, S.W.; and 1, King's Bench Walk, Temple.
1888, Nov. 12	MOULTON, JOHN FLETCHER, Q.C.	11, King's Bench Walk, Temple, E.C.
1882, Dec. 18	MUNTON, FRANCIS KERRIDGE	95A, Queen Victoria Street, E.C.
1891, Jan. 17	PAYNE, EDWARD JOHN . . .	2, Stone Buildings, Lincoln's Inn, W.C.
1869, Feb. 22	PHILBRICK, FREDK. ADOLPHUS, Q.C.	Lamb Building, Temple.
1888, Mar. 19	POLLARD, EDWARD HUTCHINSON	3, Elm Court, Temple.

Date of Election.	ASSOCIATES.	
1884, Feb. 11	POPE, SAMUEL, Q.C.	38, Parliament Street, S.W.
1887, Jan. 24	POTTER, WILLIAM, Q.C. . .	5, Paper Buildings, Temple.
1886, Jan. 11	PROCTER, FOSTER WILFRED .	36, Lincoln's Inn Fields, W.C.
1871, Feb. 27	QUICK, JOSEPH, JUN. . . .	36, Great George Street, S.W.
1868, Nov. 9	REES, JOHN CHARLES . . .	13, Great George Street, S.W.
1885, Jan. 26	RICKARDS, ARTHUR GEORGE .	11, King's Bench Walk, Temple.
1882, Jan. 16	RIGG, HERBERT ADDINGTON .	9, King's Bench Walk, Temple.
1883, April 2	RYDE, WALTER CRANLEY . .	1, Brick Court, Temple.
1891, Mar. 14	SAUNDERS, HERBERT CLIFFORD, Q.C.	1, Bolton Gardens, South Kensington, S.W.
1884, Dec. 8	SCOTT, THE HON. HENRY ROBERT	Belvoir Castle, Grantham, Lincolnshire.
1889, Feb. 11	SETH-SMITH, ARCHIBALD . .	Silvermere, Cobham, Surrey.
1888, Apr. 30	SETH-SMITH, FREDERICK . .	The Lodge, Upton Gray, Winchfield, Hants.
1886, Apl. 12	SHOPPEE, GERALD AUGUSTINE .	7, Furnival's Inn, E.C.
1879, Apr. 28	SLADEN, ST. BARBE	1, Delahay Street, S.W.
1879, Apr. 28	SMITH, LUMLEY, Q.C. . . .	4, Paper Buildings, Temple.
1884, Jan. 14	STATHAM, WILLIAM ARNOLD .	12, King's Bench Walk, Temple.
1882, Jan. 16	STEPHENS, PEMBROKE S., Q.C. .	1, Plowden Buildings, Temple.
1886, May 3	STEVENS, WILLIAM RICHARD .	6, St. Thomas Street, S.E.
1875, Jan. 4	STRUTT, THE HON. FREDERICK	Milford House, Derby.
1877, Dec. 10	SUTTON, HENRY	Farrar's Building, Temple.
1891, Nov. 4	THOMAS, GEORGE JAMES . .	London County Council, Spring Gardens, S.W.
1880, Dec. 13	THOMAS, HUBERT	Watford, Herts.
1891, Mar. 14	VEASEY, THOMAS FREDERICK .	Bridge House, Huntingdon, Hunts.
1887, Jan. 10	VENNING, JOHN JAMES EDGCOMBE	Devonport.
1891, Jan. 17	WALKER, JAMES DOUGLAS, Q.C. .	4, Brick Court, Temple.
1890, Nov, 22	WARD, REGINALD	34, Members Mansions, Victoria Street, S.W.
1885, May 18	WARREN, REGINALD AUGUSTUS.	99, Great Russell Street, W.C.
1876, Nov. 27	WEBSTER, SIR RICHD. EVERARD, Q.C., M.P. (*Associate of Council*)	2, Pump Court, Temple.
1884, May 26	WELLS, ALFRED DODD . . .	Sotwell Hill, Wallingford, Berks.
1886, May 17	WHEELER, THOMAS WHITTENBURY, Q.C.	4, Crown Office Row, Temple.

Date of Election.	ASSOCIATES.	
1871, Feb. 13	WHITE, FREDERICK MEADOWS, Q.C.	4, Paper Buildings, Temple, and 42, Sussex Gardens, Hyde Park, W.
1876, Dec. 18	WILL, JOHN SHIRESS, Q.C., M.P.	2, Garden Court, Temple.
1891, Nov. 4	WILLIAMS, THOMAS D. . . .	24, Gloucester Road, Southport, and Johannesberg.
1875, May 15	WINCKWORTH, LEWIS . . .	31, Abingdon Street, S.W.
1870, Jan. 10	WING, THOMAS TWINING . .	1, Cromwal Road, West Brighton.
1890, Nov. 22	WRIGHTSON, JOHN	College of Agriculture, Downton, Wilts.

Total number of Associates, 97.

Students.

Passed Preliminary Examination.		
1892	ADAMS, GERALD JAMES FREDERICK	14, The Chase, Clapham Common, S.W.
1892	ADAMS, HENRY CHARLES . .	60, Queen Victoria Street, E.C.
1891	ALDIS, WILLIAM HENRY . .	Basingstoke, Hants.
1891	ANDREWS, WALTER ELY . .	Ely Villa, St. Faith's Road, West Norwood.
1892	ARNOLD, ALAN	Hoe Cross, Hambledon, Hants.
1889	ARNOLD, ARTHUR HARRIS . .	Hambledon, Hants.
1892	BANNISTER, TOM HARRISON CAFFYN	Hayward's Heath, Sussex.
1891	BARTON, HAROLD	Fernleigh, Basingstoke, Hants.
1891	BATE, WILLIAM HENRY. . . .	Thorne House, Grove Park, Camberwell, S.E.
1892	BEASLEY, PERCY CHARLES . .	Burnfoot, Preston Park, Brighton.
1892	BEKEN, GEORGE, JUN. . . .	65, Cazenove Road, Stamford Hill, N.
1892	BELL, HERBERT OWEN . . .	80, Bolingbroke Grove, Wandsworth Common, S.W.
1892	BETENSON, FREDERIC ROGER .	26, Caversham Road, Kentish Town, N.W.
1891	BIDWELL, PHILIP SHELFORD .	190, Abbey Terrace, Shrewsbury.
1892	BLOUNT, EDWARD	24, Devonshire Place, W.
1892	BONELLA, RAPHAEL	Heathcote Road, St. Margaret's, Twickenham.
1890	BRADSHAW, HARRY GREAVES .	26, Demesne Road, Alexander Park, Manchester
1889	BRINKWORTH, ROBERT EDWIN .	Brookfield, Chippenham, Wilts.
1891	BRINSLEY, HERBERT GEORGE WILLIAM	12, The Avenue, Upper Norwood, S.E.
1889	BROOKE, JOHN CHRISTIAN . .	Kirkby Villa, Cricklewood, N.W.
1889	BROWN, GEORGE TURVILL . .	15, Cheyne Gardens, Chelsea, S.W.
1892	BRUCE, ALEXANDER	Elm Grove, Darlington.

Passed Preliminary Examination.	STUDENTS.	
1891	Bruton, Henry Tew . . .	20, Mount Street, Grosvenor Square, W.
1891	Burder, Reginald Edward Campbell	Ham Rectory, Hungerford, Berks.
1891	Buss, Septimus	37, South Hill Park, Hampstead, N.W.
1892	Cable, Charles V.	176, Stockwell Park Road, Brixton, S.W.
1892	Carnell, Sydney George . .	Little Bray House, South Molton, Devon.
1892	Cartwright, Alfred Stott .	Catherine Street, Macclesfield.
1891	Chattell, David George . .	29A, Lincoln's Inn Fields, W.C.
1891	Christian, Percy	Norton, near Baldock, Herts.
1892	Chubb, James Arthur . . .	The Glebe, Wokingham.
1892	Clayton, John Whitehead .	8, Archway Road, Highgate, N.
1892	Clutterbuck, Robert Wm. .	Hinsworth Rectory, Baldock, Herts.
1892	Cowell, Herbert Lee. . .	Twyn House, Usk, Monmouthshire.
1892	Cowper, William Shapland .	Gortamore, Tunstall, Sittingbourne.
1890	Craske, Robert Gerald . .	Colchester, Essex.
1892	Crawford, Herbert Henry .	59, Upper Kyverdale Road, Stamford Hill, N.
1892	Cribb, Stanley Johnstone .	Bridgetown, Totnes, Devon.
1891	Davidson, Richard Bruce. .	Queen's Park, St. Ann's, St. Helen's, Lancashire.
1892	Davies, Dixon Bowring . .	11, Dowgate Hill, E.C.
1892	Davies, Walter Jackson . .	Excelsior House, Wylde Green, near Birmingham.
1890	Debenham, Frederick Kersey	Heath House, Stepney, E.
1892	Deeley, George Plant . .	Mouse Hall, Amblecote, Brierley Hill.
1892	Deer, Edward Aubrey . .	26, High Street, Stratford-on-Avon.
1891	Dinwiddy, Donald	Crooms Hill, Greenwich Park, S.E.
1890	Druce, Edric	9, Old Square, Lincoln's Inn, W.C.
1891	Eadie, James Jeffery . . .	Cathedral Yard, Exeter, Devon.
1891	Eason, Edward William . .	43, Bishopsgate Street Without, E.C.
1890	Elgar, Walter Robinson . .	Endsleigh Villa, Park Road, Sittingbourne, Kent.
1890	Evered, Gilliebrand Elwin .	Wadhurst Castle, Wadhurst, Sussex.
1890	Everett, Arthur Sherman .	Berry, Totnes, Devon.
1891	Everington, John	Merton House, Dulwich Wood Park, Norwood, S.E.
1891	Farmer, Hugh Cecil . . .	9, Whitehall Place, S.W.
1892	Finch, Clement Robert .	Leverstock Green Vicarage, Hemel Hempstead.
1890	Finn, Fred	2, Serpentine Road, Sevenoaks, Kent.
1890	Fletcher, Herbert Phillips .	Anglebay, Woodchurch Road, West Hampstead, N.W.
1892	Folkes, Hugh Ernest . .	Dudley Road, Lye, near Stourbridge.

Passed Preliminary Examination.	STUDENTS.	
1892	Garner, John Stanley . .	159, High Street, Uxbridge.
1890	Gilbert, John Sainsbury . .	Granville, Mill Hill Park, Acton, W.
1891	Gipps, George Russell . .	Orgreave, Lichfield.
1892	Glover, Henry Alexander .	1, Motcomb Street, S.W.
1892	Godfrey, Charles Henry . .	Valentine Road, King's Heath, Birmingham.
1891	Grafton, Wykeham Charles Joseph	Ealing Lodge, Littlehampton, Sussex.
1889	Gray, Percy William . . .	4, Arundel Villas, Station Road, Cambridge.
1890	Green, Frederick Algernon .	28 and 29, St. Swithin's Lane, E.C.
1890	Hankinson, Francis Henry .	Eastbury, Bournemouth, Hants.
1892	Harris, William	Barton Mark, Winchester, Hants.
1891	Hawes, Frederick Kirk . .	Mancroft House, Chapel Field Gardens, Norwich.
1891	Heasler, Holland Charles .	Verandah Cottage, Hill Rise, Richmond, Surrey.
1891	Hendry, Alfred James . .	10, McKerrell Road, Hanover Park, Peckham, S.E.
1892	Hicks, William Rooke. . .	Vestry Hall, Hampstead, N.W.
1891	Hodges, Walter	Osmaston Road, Derby.
1889	Hodson, Frederick Walker .	Pontefract Waterworks, Pontefract
1890	Holiday, Percy Cave . . .	33, Shepherd's Bush Road, West Kensington, W.
1891	Holmes, John Edward. . .	3, King Street, E.C.
1892	Hull, William Hindes . .	1, Primrose Terrace, Vicarage Road, Leyton Essex.
1892	Irvine, Archibald Wyndham.	11, Westbourne Gardens, Folkestone, Kent.
1892	Jarmain, William	14, Adolphus Road, Finsbury Park, N.
1890	Jarman, Frank Wilmot . . .	4, High Street, Croydon.
1892	Jeboult, Douglas Harold .	37, Windsor Road, Ealing, W.
1890	Johnson, Bernard Marr . .	Buckland Court, Betchworth, Reigate, Surrey.
1891	Jones, Percy Everlæy. . .	Fallowfield, Gordon Road West, Ealing, W.
1891	Keep, John Palmer . . .	Beulah Lodge, Henley-on-Thames.
1891	Kidman, Edward Hugh . .	Leicester House, 26, Bedford Place, Russell Square, W.C.
1890	King, Walter Nike . . .	17, Akeman Street, Tring, Herts.
1891	Knight, George Edward . .	Springfield, Crystal Palace Park Road, Sydenham, S.E.
1892	Lamprill, William Thomas .	63, Broadway, Stratford, E.
1891	Lancaster, John Roy . . .	28 and 29, St. Swithin's Lane, E.C.
1892	Leane, Walter Burditt . .	21, Queen Anne's Gate, S.W.
1892	Lee, Sydney Burton . . .	Dereham, Putney Hill, S.W.
1892	Lightfoot, Francis Prideaux.	Estates Office, Drayton Manor, Tamworth.

Passed Preliminary Examination.	STUDENTS.	
1891	Little, Henry	Beaumont Terrace, Spennymore, Durham.
1891	Liversedge, John William .	Primrose Villa, Western Street, Barnsley.
1892	Lyons, Edward Covill . .	Middleton Stoney, Bicester, Oxon.
1891	Maddox, Harry Edward . .	9, Warwick Court, Gray's Inn, W.C.
1892	Mann, Frederick Chas. Thomas	North Street, Horsham, Sussex.
1890	Margetts, John Herbert .	Ashberry House, Warwick.
1891	Marriage, Percy John . .	Holbeach, Lincolnshire.
1892	Martin, Alfred John . .	19, High Street, Chelmsford, Essex.
1891	Martin, Samuel.	20, Havelock Road, Croydon, Surrey.
1889	Morris, Richard Percival .	Hartlands, Fortis Green Road, East Finchley.
1891	Morris, William Henry . .	Chirbury, Shropshire.
1891	Moxon, Harold	91, Bridge Road West, Battersea, S.W.
1891	Nanson, Laurence	120, Highgate, Kendal, Westmoreland.
1891	Neighbour, Charles Edmund.	Fair View, Sevenoaks, Kent.
1892	Nevett, Thomas Charles . .	41, Fishergate, Preston, Lancashire.
1892	Neubronner, Harry Alfred .	138, Warwick Street, S.W.
1891	Nicholls, Edward Alfred .	6, Buckingham Terrace, New Southgate, N.
1891	Nicholson, Arthur William .	Petra Villa, Bournemouth, Hants.
1891	Norris, Arthur Blurton . .	52, Brondesbury Villas, Kilburn, N.W.
1890	Ouvry, Peter Arnold . . .	East Acton, London, W.
1892	Page, Stanley Hatch . . .	23, High Street, Maidstone, Kent.
1891	Pain, George Lloyd . . .	Silverdale Vicarage, Carnforth, Lancashire.
1892	Pain, William Henry . . .	2, Chelmsford Road, South Woodford, Essex.
1892	Parks, Walter	Sidley House, Bexhill, Sussex.
1892	Paul, John William . . .	Westbury, East Finchley, N.
1892	Peppercorn, John Arthur .	Royal Agricultural College, Cirencester.
1892	Phillips, Francis John . .	The Limes, Grove Road, Chelmsford, Essex.
1890	Preston, Leonard Ronald . .	4, Elsworthy Road, South Hampstead, N.W.
1891	Pritchard, Herbert Alfred.	14, Warwick Road, Earl's Court, S.W.
1890	Punchard, Charles Bates . .	Underley Estate Office, Kirkby Lonsdale.
1890	Raffety, Herbert William .	Fairholme, High Wycombe, Bucks.
1891	Roberts, Joseph Wm. George	Preston, Yeovil.
1892	Rootham, Frederick Fleet .	Shawbury, Shrewsbury, Shropshire.
1892	Sandford, Charles Sidney .	Ecclesall Vicarage, Sheffield.
1890	Scott, Archibald Lacy . . .	Bury St. Edmund's, Suffolk.
1892	Sedgwick, Alfred Sydney Edw.	195, Tulse Hill, S.W.
1892	Sewell, Henry Edward Bygrave	11, Bruce Grove, Tottenham, N.

Passed Preliminary Examination.	STUDENTS.	
1891	SHEPPARD, ALEXANDER CHAMBERLAYNE O.	Glyn Clydach, near Neath, Glamorganshire.
1892	SKEAT, ARTHUR PERCIVAL . .	2, Salisbury Villas, Cambridge.
1892	SKINGLE, ALFRED CHARLES. .	79, St. James' Road, Brixton, S.W.
1891	SLY, JOSEPH TOWNSON . . .	54, The Parade, Leamington Spa.
1892	SMITH, ALEXANDER GEORGE .	46, Sydney Street, Chelsea, S.W.
1892	SMITH, RUPERT WYATT . . .	Underley Estate Office, Kirkby Lonsdale.
1891	SPEKE, CHARLES	Wormwood Farm, Box, Wilts.
1889	SQUIRE, GERALD ROBERT . .	Glenthorne, Ellesmere Park, Eccles, Manchester.
1892	STANDEN, ARTHUR CARNEGIE .	Broadlands, Streatham, S.W.
1890	STAPLEDON, ERNEST ALLEN .	Lakenham, Northam, Bideford, Devon.
1891	STENNING, OSWALD FRANCIS .	76, St. George's Road, S.W.
1891	STEVENS, SYDNEY SAMUEL . .	Thorney, near Peterborough.
1891	STROUTS, LEWIS HERBERT . .	3, Newlands Park, Sydenham, S.E.
1892	STUPART, CHARLES WALTER .	4, Plymouth Road, Totnes, Devon.
1891	TEWSON, LEONARD	The Weald, Netherhall Gardens, Hampstead, N.W.
1891	THOMPSON, FREDERICK HUBERT	College of Agriculture, Downton, Wilts.
1890	THORPE, JOHN HOMAN . . .	New House, Northiam, Sussex.
1891	TOWNEND, WILLIAM . . .	Park Farm, Seacroft, near Leeds.
1892	WALKER, WILLIAM SELVES . .	Woodberry, Sydenham Hill, Surrey.
1892	WATSON, HERBERT JOHN . .	New Grove, Petworth, Sussex.
1891	WATTS, RUPERT CYRIL . . .	St. Ives, Huntingdon.
1891	WEATHERHEAD, DAVID WILKINSON	Croft House, Keighley, Yorks.
1890	WELLS, WILLIAM HENRY . .	14, Girdler's Road, West Kensington, W.
1890	WHITAKER, ERNEST VICTOR .	Wandsworth Lodge, Upper Tooting, Surrey.
1892	WHITBY, HERBERT BATESON .	St. John's House, Sandown, Isle of Wight.
1892	WILDE, SIDNEY ALGERNON . .	29, Fleet Street, E.C.
1891	WILLIAMS, HENRY CUTHBERT .	34, Streatham Place, Brixton Hill, S.W.
1891	WINDSOR, ARTHUR SIMEON . .	6, High Street, Banbury.
1891	WYATT, ARCHIBALD	Newland, Fareham, Hants.

Total number of Students, 157.

SUMMARY.

Honorary Members	11
Fellows	1,644
Professional Associates	332
Associates	97
Students	157
Total . . .	2,241

NOTE.—To ensure the regular transmission of the Papers and Notices, it is particularly requested that any changes of address be communicated at once to the Secretary.

Members of the Institution who have Passed the Fellowship Examination.

1888 Adkin, Benaiah Whitley.
1892 *Anscombe, Ernest.
1887 Austin, Richard, Jun.
1891 *Aylen, Cecil Hugh.
1891 Ball, William Alfred.
1891 Barnes, George Frederick.
1889 Beard, Edwin Thomas
1884 Bedells, Charles Herbert.
1888 Benson, Robert Alan.
1889 Birch, Walter de Hoghton.
1885 Bontor, Frank Arthur.
1891 Boulting, Frederick Edward.
1892 Brackett, Frederick Henry.
1887 Buckland, Alfred Virgoe.
1887 Burrows, Alfred John.
1891 Bushell, Henry.
1892 *Castle, Harold.
1892 Corderoy, Athelstane.
1890 Darch, John.
1892 *Davey, Henry Thomas.
1886 Day, William, Jun.
1890 *Dendy, William Cooper.
1885 Dickson, Thomas Arthur.
1891 Done, John James.
1888 Drew, Henry Alban.
1892 *Dudley, Edgar.
1891 Eagland, William Francis.
1890 Ellis, Herbert Moates.
1890 Ellis, Ralph Staples.
1887 Eve, Herbert Trustram.
1890 *Eves, William Lionel.
1890 *Foster, Frank (*Special Sanitary Science Certificate*, 1892).
1892 *Garrard, Arthur Norman.
1887 Gibb, William Pashley.
1892 *Giddy, Osman Horton.
1886 Godfrey, Robert.
1892 *Green, Alexander Ernest.
1891 Griffiths, Harold.
1892 Grogan, Hedworth Herbert.
1892 *Grover, Arthur.
1891 *Hadley, Frank.
1891 Hall, William Timothy.
1888 Hansell, Reginald Goddard.
1890 *Haslam, Dryland. Jun.
1886 Hasluck, Lancelot Gerald.
1892 *Hayward, Frederick George.
1891 Head, John George (*Crawter Prize*, 1891).
1891 Higgins, George.
1889 Hodge, Leonard Percival.
1883 Horne, William Edgar.
1892 *Kemp-Smith, James Frederick.
1884 Johnson, Henry.
1889 Jonas, Harry Marshall.
1890 Jones, Frederick Herbert.
1886 Jones, Henry Arthur (*Special Sanitary Science Certificate*, 1892).
1888 King, Alfred.
1889 Lambert, Godfrey Charles.
1891 *Mann, Robert Bagshaw.
1892 *Martin, Thomas.
1888 Massie, Frank.
1889 Maxwell, Francis William.
1890 *Melrose, Frank.
1892 *Merry, Arthur Walker.
1884 Michelmore, Alfred (*Special Forestry Certificate*, 1890).
1888 Millward, Isaac.
1892 *Mitchell, George Sharman.

Members of the Institution who have Passed the Fellowship Examination.—continued.

1884 Mixer, Edward.
1885 Moore, Harold Edward.
1891 *Mould, Graham Harley.
1892 Muller, John Joseph.
1883 North, George Frederic.
1891 *Oakley, John Hubert.
1892 *Ogden, Michael Guy.
1892 *Osenton, George, Jun.
1885 *Pain, James.
1892 *Palamountain, Joseph Wm.
1891 *Parris, Charles John.
1887 Parry, Richard.
1886 Paull, Alan.
1891 Perkins, Walter Frank.
1884 Peto, James Winder.
1885 Pilditch, Philip Edward (*Special Sanitary Science Certificate*, 1890).
1892 *Preston, Samuel David.
1891 *Punchard, Frederick Burt.
1892 Richardson, Oliver Archer (*Crawter Prize*, 1892).
1884 Rolleston, William Gustavus Stanhope.
1887 Roods, Alfred.
1889 Rundle, Edward Collins.
1889 Sadler, George William, Jun.
1891 *Saunders, Charles Herbert.
1892 *Savill, Edwin.
1883 Silcock, Thomas Ball.
1892 *Slater, Charles Frederick.
1889 Smith, Frank William.
1884 Smith, William.
1887 Tiffen, John Henry.
1885 Treadwell, Henry John.
1883 Vernon, Arthur.
1892 *Walker, Joseph Arthur.
1892 *Webster, Hugh Calthrop.
1891 Wood, Charles Bruce.
1892 *Young, Harry Austin Lindsay.

* *Those to whose names a star is affixed, have passed the Fellowship Examination but have not yet been transferred to the Class.*

Members of the Institution who have Passed the Professional Associateship Examination.†

1891 Abrams, Benjamin Percy.
1887 Adkin, Benaiah Whitley.
1887 Anscombe, Ernest.
1890 Armytage, Francis Reginald.
1885 Arnott, John (*Special Prize*, 1885).
1889 Assiter, Harry G. (*Special Sanitary Science Certificate*, 1892).
1887 Austin, Richard, Jun.
1890 Aylen, Cecil Hugh.
1885 Baker, Cecil Cautley.
1888 Ball, James Benjamin.
1889 Ball, William Alfred.
1890 Bancroft, Frederick Herbert.
1890 Barclay, Thomas.
1889 Barnes, George Frederick.
1884 Barratt, Harry.
1891 Barton, Ernest Wilfred Edwards.
1887 Bateman, Arthur Charles.
1890 Beadel, Maurice Frederick.
1885 Beard, Edwin Thomas.
1891 Beasley, John Arthur Llewellyn (*Driver Prize*, 1891).
1883 Bedells, Charles Herbert.
1888 Belcher, Edward John.
1889 Bellingham, Archibald Turner.
1884 Benson, Robert Alan (*Bracketted Special Prize*, 1884).
1884 Birch, Walter de Hoghton.
1886 Birkett, Tom.
1885 Blundell, Harry.
1890 Body, Arthur.
1883 Bontor, Frank Arthur.
1887 Booth, John Frederick.
1890 Boulting, Frederick Edward.
1886 Bousfield, Edwin Vaughan Davenport.
1891 Bowden, Ernest Newton.
1891 Bowden, John Friendship (*Institution Prize*, 1891).
1888 Bower, Arthur Wentworth Chivers.
1890 Brackett, Frederick Henry.
1888 Brady, Ralph Hollinshed.
1888 Brevetor, Thomas, Jun.
1889 Bridgford, Leo Appleton.
1886 Briggs, John.
1891 Brown, Alexander Burnett.
1889 Brown, Arthur Macdonald (*Driver Prize*, 1889).
1887 Brown, William Edward.
1885 Buckland, Alfred Virgoe.
1891 Buckland, Sidney Crawford.
1888 Bulbeck, George.
1886 Burrows, Alfred John.
1887 Bushell, Henry.
1887 Buss, Fleetwood George William.
1886 Callendar, William Jackson.
1886 Campbell, Colin.
1891 Carr, Thomas Edmund.
1887 Carter, Alfred Presley.
1891 Castle, Harold.
1888 Chalcraft, Henry Terrell.
1888 Cheney, Edwin John.
1888 Child, Edmund Herbert.
1885 Coales, Herbert George.
1890 Cobham, George William (*Special Prize*, 1890; *Crawter Prize*, 1890).
1889 Colbourn, Henry James (*Special Forestry Certificate*, 1890).
1887 Collingham, J. Cyril Lees.
1885 Collins, Marcus E.

† *This list does not include the names of those who have passed the Examination but have not yet joined the Institution.*

Members who have Passed the Professional Associateship Examination—continued.

1888 Collyer, Daniel William.
1890 Cope, Henry James.
1891 Corderoy, Athelstane.
1891 Crawshay, Lionel Ruttledge
1883 Crawter, John, Jun.
1891 Crier, John Thomas.
1886 Crosland, Walter.
1891 Cross, Arnold Charles Martin.
1888 Crouch, James Leonard.
1889 Darch, John.
1888 Davey, Henry Thomas.
1891 Davis, Neville Brookes.
1883 Day, William, Jun.
1891 Debenham, Horace Bentley.
1889 Dendy, William Cooper (*Special Prize*, 1889).
1884 Dickson, Thomas Arthur.
1888 Dixon, Francis Edward (*Special Prize*, 1888).
1887 Done, John James (*Driver Prize*, 1887).
1886 Drew, Henry Alban.
1889 Dudley, Edgar.
1884 Dunning, Bernard Simon.
1888 Eagland, William Francis.
1890 Elgood, Frank Minshull.
1890 Ellis, Francis, Jun.
1888 Ellis, Herbert Moates.
1887 Ellis, Ralph Staples.
1887 Eve, Herbert Trustram.
1888 Eves, William Lionel.
1891 Finn, Herbert Archibald (*Special Prize*, 1891).
1890 Forrest, William.
1889 Forster, Walter Hill.
1888 Foster, Frank.
1891 Franklin, Benjamin Belgrove.
1890 Fraser, William.
1889 Galsworthy, Vincent Somers.
1890 Garrard, Arthur Norman.
1886 Gibb, William Pashley.
1885 Gibbon, William Jacomb (*Driver Prize*, 1885).
1889 Giddy, Osman Horton.
1889 Goddard, Alexander.
1885 Godfrey, Robert.
1886 Golightly, Charles Hugh.
1889 Grant, Joseph.
1890 Green, Alexander Ernest.
1891 Green, Edmund Horace.
1887 Green, Thomas John.
1886 Green, Thomas Joseph.
1884 Greenop, Edward.
1890 Griffiths, Harold.
1888 Grimes, Ralph Fearon.
1890 Grogan, Hedworth Herbert.
1889 Grover, Arthur.
1888 Gunter, James.
1889 Hadley, Frank.
1884 Halkyard, William Redford.
1884 Hall, William Timothy (*Institution Prize*, 1884).
1886 Halton, Harry Russell.
1890 Hampton, George Fredk. William.
1887 Hansell, Reginald Goddard.
1887 Harding, Frederick Allcroft.
1888 Haskins, William Albion
1889 Haslam, Dryland, Jun.
1883 Hasluck, Lancelot Gerald.
1890 Hayward, Frederick George.
1889 Head, John George.
1885 Hebblethwaite, Charles Henry.
1888 Henderson, Harry Gilbert.
1886 Henderson, Richard.
1889 Higgins, George.
1886 Hill, Adfred.
1885 Hilliard, George Edward.
1888 Hodge, Leonard Percival
1890 Hodgkinson, James Henry.
1891 Hollis, Herbert.
1891 Hollis, Ralph.
1888 Homan, Hubert Franklin.

Members who have Passed the Professional Associateship Examination—continued

1887 Hooper, Cecil Henry.
1890 Innes, Gilbert Plantagenet Mitchell.
1891 Jessett, Charles Edward Vernon.
1883 Johnson, Henry.
1887 Johnston, Walter Henry.
1887 Jonas, Harry Marshall (*Institution Prize*, 1887).
1886 Jonas, Samuel Marshall.
1888 Jones, Frederick Herbert.
1883 Jones, Henry Arthur.
1891 Joyce, Harry Ward.
1885 Jull, William Vincent.
1890 Kay, Walter Robert.
1889 Kaye, Edward Percival.
1890 Kemp-Smith, James Frederick.
1887 King, Alfred.
1886 King, William Isaac.
1888 Lambert, Godfrey Charles.
1885 Lansdown, George Arthur.
1890 Larkin, Richard Webster.
1891 Lawley, Frederick William.
1890 Leaning, Henry John.
1886 Lee, John Wilfrid.
1888 Leverton, Frank John Waldemar.
1890 Lewis, Arthur Llewelyn.
1891 Longsdon, Edward Morewood.
1886 Lowe, Charles Robert.
1888 Lumley, Julian Arthur.
1888 Mann, Robert Bagshaw.
1888 Martin, Heber Gambling (*Institution Prize*, 1888).
1888 Martin, Thomas.
1889 Mason, Charles William Hayley.
1885 Massie, Frank.
1886 Maxwell, Francis William.
1884 Mead, John Henry.
1887 Melrose, Frank.
1890 Merry, Arthur Walker (*Institution Prize*, 1890).
1887 Millward, Isaac.
1891 Mitchell, Edward Sharman.
1884 Mixer, Edward.
1890 Molyneux, Herbert Ernest.
1883 Moore, Harold Edward.
1888 Morgan, Alfred Walker.
1891 Moses, Henry.
1890 Mould, Graham Harley.
1883 Moyes, John Helenus.
1889 Muir, James (*Institution Prize*, 1889).
1891 Muller, John Joseph.
1890 Nockolds, Alfred George.
1888 Nockolds, Martin Charles Hubert.
1891 Oakley, Christopher Percival.
1890 Oakley, John Hubert.
1890 Ogden, Michael Guy.
1890 Osenton, George, Jun.
1883 Pain, James.
1888 Palamountain, Joseph William.
1891 Palmer, William Edward King.
1889 Parris, Charles John.
1887 Parry, Richard.
1890 Partridge, Edward John (*Driver Prize*, 1890).
1886 Paterson, Andrew Thomason.
1883 Paull, Alan.
1886 Pelham-Clinton, Hubert Edward.
1889 Perkins, Joseph.
1886 Perkins, Walter Frank (*Special Prize*, 1886).
1885 Perks, Sydney.
1884 Petre, Robert George.
1887 Phillips, William Dearlove (*Special Prize*, 1887).
1886 Physick, Walter Frederick (*Institution Prize*, 1886).
1883 Pilditch, Philip Edward.
1890 Pinder, Richmond.
1889 Pochin, Thomas Clement.
1891 Poggio, Eloi John.

Members who have Passed the Professional Associateship Examination—continued.

1890 Potter, Herbert George.
1890 Prall, Herbert Edward.
1886 Prater, Thomas Herbert.
1888 Preston, Samuel David.
1889 Puckridge, Percival Martin.
1888 Punchard, Frederick Burt.
1885 Rand, John.
1891 Richardson, Oliver Arthur.
1891 Robins, Philip Seymour.
1887 Robinson, Alfred Whitmore.
1891 Robinson, Henry Herbert.
1883 Rolleston, William Gustavus Stanhope (*Institution Prize*, 1883).
1886 Roods, Alfred (*Driver Prize*, 1886).
1888 Roper, John Simpson.
1889 Rowley, William Taylor.
1886 Ruddle, Frank J.
1883 Rundle, Edward Collins.
1884 Sadler, George William, Jun.
1887 Salt, Reginald Nowell.
1889 Sampson, William.
1883 Satchell, Charles (*Special Prize*, 1883).
1889 Satchell, Herbert Arnold.
1889 Saunders, Charles Herbert.
1890 Savill, Edwin.
1891 Sedgwick, Rupert William.
1889 Selby, Frank.
1884 Selby, John Basely (*Bracketted. Special Prize*, 1884).
1887 Shaw, Arthur.
1890 Slater, Charles Frederick.
1888 Smith, Frank William (*Driver Prize*, 1888).
1890 Smith, James.
1890 Snailum, Walter Wadman.
1891 Soutter, Ernest.
1890 Spelman, William Wilton Rix.
1889 Stainton, Francis Charles.
1888 Stucké, William Henry.
1884 Sturge, Theodore.
1885 Sturgess, John Moore.
1889 Sturley, Arthur Dyson.
1890 Summerfield, Joseph Charles.
1887 Swetenham, Henry.
1891 Temple, Frederick Wilson.
1891 Thurgood, Albert Edward.
1885 Tiffen, John Henry (*Institution Prize*, 1885).
1888 Tilly, Hubert Douglas.
1890 Townsend, George James.
1883 Treadwell, Henry John (*Driver Prize*, 1883).
1891 Tuckett, Percival Fox
1886 Turner, Percy.
1889 Tyler, James William.
1886 Vale, Henry.
1890 Verity, Ernest George.
1887 Wade, Henry.
1889 Wain, George Sparrow.
1891 Walker, Joseph Arthur.
1887 Warton, Wilfred.
1890 Watson, Claude Henry.
1884 Watson, James Bruce.
1885 Watson, John, Jun.
1888 Watson, Richard.
1892 Webb, Frederick Noel.
1890 Webster, Hugh Calthrop.
1887 Whalley, Frederick Herbert.
1887 Wheeler, Charles Trevor Ogle.
1887 Wight, Norman.
1891 Wilks, Ernest Stringer.
1891 Wilson, James Calvert.
1887 Wilson, William Edward.
1891 Windley, Henry Chadwick.
1890 Wood, Charles Bruce.
1890 Wood, Edward Bryan.
1891 Woodward, Walter Henry.
1886 Woolnough, John William.
1887 Worthington, James Scott.
1891 Young, Harry Austin Lindsay.

Members Transferred since the publication of the January List from the Class of Professional Associates to that of

Fellows—

Brackett, Frederick Henry.	27, High Street, Tunbridge Wells, Kent.
Corderoy, Athelstane . .	19, Queen Anne's Gate, S.W.
Eagland, William Francis .	Burley, Leeds.
Elgood, Frank Minshull. .	98, Wimpole Street, W.
Grogan, Hedworth Herbert .	125, Piccadilly, W.
Muller, John Joseph . .	41, Archway Road, Highgate, N.
Richardson, Oliver Archer .	3, Almorah Road, Canonbury, N.
Scammell, Thomas	14, John Street, Bristol.
Swetenham, Henry . . .	Nidd, Ripley, Yorkshire.

Members who have Died since the publication of the January List.

Honorary Members—

Caird, Sir James, K.C.B. . .	Board of Agriculture, St. James's Square, S.W.
Hampden, The Right Hon. Lord Viscount	Glynde, Lewes, Sussex.

Fellows—

Beadel, William James, M.P.	97, Gresham Street, E.C.
Bird, James Binfield . . .	West Cowes, Isle of Wight.
Burnell, Edward Henry . .	32, Bedford Row, W.C.
Cowgill, William	Bradford, Yorkshire.
Eves, George	Uxbridge, Middlesex.
Gillart, Richard	Machynlleth, Montgomeryshire.
Knollys, James Edward . .	Fitzhead Court, Taunton, Somerset.
Lipscomb, Robert Hartley .	East Budleigh, Budleigh Salterton, Devon
Maddox, Charles Ralph . .	9, Warwick Court, Gray's Inn, W.C.
Norman, William	34, Great George Street, S.W.
Porter, Alfred	109, Grange Road, Bermondsey, S.E
Raby, William	78, Cross Street, Manchester.
Rigden, John Lambe . . .	Natal, South Africa.
Statter, Thomas	Standhall, Whitefield Manchester.
Walton, Michael	2, Mount Street, Grosvenor Square, W.

Professional Associate—

Perrers, Harry Wilson . .	8, Argyll Place, Regent Street, W.

Associates—

Carlisle, William Thomas .	8, New Square, Lincoln's Inn, W.C.
Woolf, Sidney, Q.C. . . .	7, King's Bench Walk, Temple, E.C.

Provincial Committees.

JULY 1st, 1892.

(A.) NORTHERN COUNTIES COMMITTEE.

Chairman.

WILLIAM JAMES HESKETT, 24, King Street, Penrith, Cumberland.

ARMSTRONG, THOMAS JOHN	14, Hawthorn Terrace, Newcastle.
AYNSLEY, ROBERT JOHN	Gosforth, Newcastle-on-Tyne, Northumberland.
BAINBRIDGE, ROBERT STAGG	Keverstone, near Staindrop, Durham.
BANKS, JOHN	Kendal, Westmoreland.
BIRKETT, TOM	Foxton House, Penrith, Cumberland.
BOLAM, WILLIAM THOMAS	Cross House, Westgate Road, Newcastle.
BOWMAN, JOHN JAMES	32, English Street, Carlisle.
BRYDON, ROBERT	The Dene, Seaham Harbour, Durham.
CLARK, JOHN MCCLARE	Haltwhistle, Northumberland.
CLARK, NATHANIEL	Beamish Park, Chester-le-Street, Co. Durham.
CURRY, HENRY JOHN	58, High Street, Stockton-on-Tees.
EADE, ARTHUR WILLOUGHBY FRENCH	Feethams, Darlington.
FORSYTH, THOMAS HILLS	39, Northumberland Street, Newcastle-upon-Tyne.
GREEN, ROBERT COWPER	26, Fawcett Street, Sunderland.
HAYTON, JOSEPH WILLIAM	Devonshire Chambers, Carlisle.
HAYTON, PATTINSON	Devonshire Chambers, Carlisle.
HEDLEY, JOHN HUNT	55, John Street, Sunderland.
HEDLEY, THOMAS FENWICK	Sunderland.
HOGGARTH, ARTHUR	Kendal, Westmoreland.
HOGGARTH, EDWIN	Kendal, Westmoreland.
HOLME, JOHN	Owlet Ash, Milnthorpe, Westmoreland.
HUDSON, JAMES	Penrith, Cumberland.
JAMES, CHRISTIAN HUGH	Rudchester, Wylam-on-Tyne.
LITTLE, WILLIAM	Hutton Hall, Penrith.
MINTER, WILLIAM	81, Bondgate, Darlington.
NICHOLSON, THOMAS COOKE	24, Grainger Street West, Newcastle.
OLIVER, CHARLES EDWARD	Blackhill, Co. Durham.
PEIRSON, HENRY THOMAS	Branspeth, R.S.O., Co. Durham.
POTTS, JAMES	Stanbeck, Workington, Cumberland.
PUNCHARD, FREDERICK	Underley Estate Office, Kirkby Lonsdale, Westmoreland.

Richardson, George	Estate Office, Edenhall, Langwathby, Cumberland.
Rodham, John	16, Finkle Street, Stockton-on-Tees.
Rowlandson, Christopher	The College, Durham.
Rudman, Sidney Charles	Windlestone, Ferry Hill, Co. Durham.
Sample, Charles Herbert	Matfen, near Newcastle.
Sample, Thomas	Bothal Castle, Morpeth, Northumberland.
Sample, William Collings	Bothal Castle, Morpeth, Northumberland.
Scarth, William T.	Raby Castle, Darlington.
Stanley-Dodgson, Stanley Dickenson	Estate Office, Somerset House, Whitehaven, Cumberland.
Taylor, John William	33, Westgate Road, Newcastle.
Tomlinson, Thomas	Estate Office, Alnwick Castle.
Wall, George Young	Exchequer Buildings, Durham.
Wallace, Henry	Trench Hall, Gateshead-on-Tyne.
Webster, Alexander	100, Highgate, Kendal, Westmoreland.
Wells, Edwin	Barnard Castle, Co. Durham.
Wheler, Edward Galton	Swansfield House, Alnwick.
Wilson, Sir Jacob	Chillingham, Alnwick.

Total, 48 Members.

(B.) COUNTIES PALATINE COMMITTEE.

Chairman.

William Radford, 1, Princess Street, Manchester.

Addie, Peter	30, Winckley Square, Preston.
Bailey, Leonard	Estate Office, Scorton, Garstang.
Bancroft, Henry	Kay's Chambers, 26, Cooper Street, Manchester.
Banks, Thomas	60, King Street, Manchester.
Barrow, Thomas Robert	Arnold House, Windsor Road, Southport.
Batey, Henry Simpson	51, King Street, Manchester.
Beckwith, Henry Langton	14, North John Street, Liverpool.
Bell, Albert William	18, Bank Street, Accrington.
Bertwistle, James	1, Tackett's Street, Blackburn.
Booth, John Frederick	35, Church Street, St. Helen's.
Bowden, John	14, Ridgefield, Manchester.
Brady, Charles Alldis	17, Warren Street, Stockport.
Brady, William Hollinshed	17, Warren Street, Stockport.
Bridgford, Ernest James	28, Cross Street, Manchester.
Bridgford, Col. Robert, C.B.	28, Cross Street, Manchester.
Brocklebank, John	58A, Yorkshire Street, Rochdale.

Campbell, Henry Hunter	Sutton Hall, St. Helen's.
Carswell, William	Capesthorne, Chelsford, Cheshire.
Cartwright, Joshua	Bury, Lancashire.
Cocks, Robert	Estate Office, Altrincham, Cheshire.
Corbett, Christopher George Bentham	9, Albert Square, Manchester.
Cross, John	77, King Street, Manchester.
Cross, William Haslam	77, King Street, Manchester.
Davies, John	Mollington, Chester.
Dawson, Edward Howard	41, Market Street, Lancaster.
Dorning, Arthur Harry	41, John Dalton Street, Manchester
Dorning, Elias	41, John Dalton Street, Manchester.
Eagle, William	77, King Street, Manchester.
Earle, Thomas Algernon	90, King Street, Manchester, and Liverpool.
Earnshaw, Jacob	10, St. James' Square, Manchester.
Eastham, James Cook	The Town Hall, Manchester.
Evans, Charles Lee	Norton Hill, Runcorn, Cheshire.
Fair, Jacob Wilson	Haigh Hall, Wigan, and 8, Winckley Street, Preston.
Fair, James Stretton	4, Winckley Street, Preston.
Fair, Thomas	Estate Offices, Lytham.
Fairclough, William	60, King Street, Manchester.
Fletcher, Thomas	Dukenhalgh, Clayton-le-Moors, near Accrington.
Fowler, Henry	63, Dale Street, Manchester.
Gradwell, Arthur Richard	10, Richmond Terrace, Blackburn.
Hall, Charles Edward	The Albany, Old Hall Street, Liverpool.
Hanson, Amos	35, Church Street, St. Helen's.
Harding, Joseph	49, Lune Street, Preston.
Hargraves, Stephen	20, St. Ann's Square, Manchester.
Holden, John	64, Cross Street, Manchester.
Holmes, James	23, Delamere Street, Ashton-under-Lyne.
Holt, George Henry	10, Richmond Terrace, Blackburn.
Hopkinson, Alfred	Castle Chambers, Bury, Lancashire.
Hurrell, John Weymouth	25, Brazennose Street, Manchester.
Jackson, Charles	23, Brazennose Street, Manchester.
Jones, Isaac Matthews	The Town Hall, Chester.
Kirby, Edmund	5, Cook Street, Liverpool.
Lancaster, Charles Holland	York Buildings, 14, Dale Street, Liverpool.
Larmuth, George Horatio	Wilton Chambers, 10, St. Ann's Square, Manchester.
Lenaker, Charles Edward	Frodsham, Chester.
McCall, George	33, Victoria Chambers, Market Place, Blackburn.
McCallum, James Braddon	Leamington Street and Municipal Offices, Blackburn.
McCracken, William	Crewe.

MacIver, Colin . . . . . 23, Bold Street, Warrington.
Maxwell, Francis William . 29, Princess Street, Manchester.
Maxwell, James . . . . . 29, Princess Street, Manchester.
Meller, William Galloway . 22, Cooper Street, Manchester.
Mills, William Edward . . 49, Hamilton Square, Birkenhead.
Murgatroyd, James . . . 23, Strutt Street, Manchester.
Myres, John James. . . . 15, Chapel Street, Preston, and Blackpool.
Nevett, Francis Walter . . 41, Fishergate, Preston.
Nevett, Thomas. . . . . 41, Fishergate, Preston.
Nuttall, Thomas . . . . 12, Market Street, Bury.
Owen, Richard Newsham . . Haughton, Tarporley.
Pain, Coard Squarey . . . 14, North John Street, Liverpool.
Park, Philip Samuel . . . 18, Winckley Street, Preston.
Park, William Philip. . . 18, Winckley Street, Preston.
Parker, The Hon. Cecil Thomas. . . . . Eccleston, Chester.
Parmeter, Frank . . . . Middle Lees, Clitheroe.
Pearson, Alfred . . . . Estate Offices, Dukinfield.
Pierson, Charles . . . . 29, Cooper Street, Manchester.
Price, John . . . . . Lark Lane, Toxteth Park, Liverpool.
Raby, Joseph Walker . . . 78, Cross Street, Manchester.
Radford, William Harold . 1, Princess Street, Manchester.
Rea, John Marcus Beaumont. 8, Winckley Street, Preston.
Robinson, George Edward . 9, Tackett's Street, Blackburn, and Clitheroe Castle.
Roper, John Simpson . . . 32, Market Square, Lancaster.
Scovell, John . . . . . Oulton Park, Tarporley, Cheshire.
Shelmerdine, Henry . . . Estate Offices, L. & Y. Railway, Hunt's Bank, Manchester.
Smith, John Thompson . . Tattondale, Knutsford, Cheshire.
Stocks, Frederick William . Mere, Knutsford.
Suthers, James . . . . . 2, White Hart Fold, Todmorden.
Taylor, Thomas Walters . . 25, Brazennose Street, Manchester.
Thomas, Glegge . . . . Cheshire Lines Committee, Central Station, Liverpool.
Thompson, Francis William . 5, Wood Street, Bolton.
Veevers, Richard . . . . Wonnington, Fulwood Park, Preston.
Wainwright, Thomas Taylor . 21, Leigh Street, Liverpool.
Walker, Colonel David . . 11, Dale Street, Liverpool.
Walsh, Albert Mellor . . 19, King Edward Street, Macclesfield.
Watts, Samuel Lingard . . Town Hall Buildings, King Street, Manchester.
Watts, William John . . . Town Hall Chambers, King Street, Manchester.
Whalley, Henry Shaw . . 90, Northgate Street, Chester.
White, John . . . . . Warrington, Lancashire.
Wilson, Thomas Silk . . . Albert Square, Manchester.

Wilson, William Henry . .	29, Fountain Street, Manchester.
Wolfenden, Thomas . . .	54, Hall Street, Southport.
Wrennall, William . . .	9, Harrington Street, Liverpool.
Young, Edward Herbert . .	Central Buildings, North John Street, Liverpool.
Young, Oswald William . .	Mersey Docks and Harbour Board, Liverpool.

Total, 104 Members.

(C.) YORKSHIRE COMMITTEE.

Chairman.

Abbey, Joe Burman . . .	28, John William Street, Huddersfield.
Abbott, Robert Thomas G. .	Whitley House, Malton.
Armistead, Richard . . .	118, Main Street, Bingley.
Armytage, George John . .	Kirklees Park, Brighouse.
Bateman, John	Hall Garth, Clapham.
Bell, Albert William. . .	18, Bank Street, Accrington.
Bilson, John	23, Parliament Street, Hull.
Botterill, William . . .	23, Parliament Street, Hull.
Bradley, William Edward .	The Hall, Ebberston, York.
Brodrick, Frederick Stead .	Cogan Chambers, Bowl Alley Lane, Hull.
Broster, Robert Buck . . .	6 and 8, Temple Street, Keighley.
Buckley, George	Tower Chambers, Halifax.
Carrington, Thomas . . .	Endcliffe Court and Kiveton Park, near Sheffield.
Chowen, Henry Llewellyn .	Estate Office, Dalton Holme, Hull.
Clare, Edward Lovell . .	Yorkshire Bank Chambers, Bradford.
Clarke, Christopher . . .	Charlcot, Bedale.
Clarke, John William . .	Guisbrough.
Clutton, William James . .	The Mount, York.
Cowgill, Brian Bollans Hird	13a, Piece Hall Yard, Bradford.
Cox, Edward Samuel . . .	3, New Street, York.
Crowther, John Herbert .	38, New Street, Huddersfield.
Cundy, Hubert John . . .	Wetherby and Leeds.
Demetriadi, Thomas Marsden	28, John William Street, Huddersfield.
Dent, Ralph John. . . .	The Cedars, Harrogate.
Dransfield, Henry Brook .	12, 13, and 14, Estate Buildings, Huddersfield.
Eagland, William Francis .	Burley, Leeds.
Easton, John H.	Bowl Alley Lane, Hull.
Ellison, Michael	Duke of Norfolk's Estate Office, Sheffield.
Evans, William	St. John Street, Beverley.
Farrer, John	Oulton, near Leeds.
Fenwick, Thomas	Leeds.

Fillingham, Edward . . .	Spring Bank, Hull.
Flockton, Thomas James. .	15, St. James' Row, Sheffield.
Forbes, Charles Mansfeldt .	14, New Street, York.
Fowler, Frederick . . .	St. James' Street, Sheffield.
Fowler, Reginald William .	8, George Street, Sheffield.
Fox, Charles James . . .	22, George Street, Halifax.
France, Arthur Alderson .	99, Swan Arcade, Bradford.
France, Charles	99, Swan Arcade, Bradford.
Fryer, George	15, Parliament Street, Hull, and Rose Villa, Bishop Wilton, near York.
Gelder, William Alfred . .	12, Bowl Alley Lane, Hull.
Gott, Chalres	8, Charles Street, Bradford.
Gott, Charles Henry . . .	8, Charles Street, Bradford.
Gott, Frank.	3, East Parade, Leeds.
Greaves, John Oldroyd . .	69, Westgate, Wakefield.
Gregson, William	Baldersby, Thirsk.
Hanson, John Henry . . .	20, Ramsden Street, Huddersfield.
Hebblethwaite, Louis . .	Conservancy Buildings, and Aulaby Road, Hull.
Hepper, John	East Parade, Leeds.
Hindle, John	24, Bank Street, Bradford.
Hobson, Harry	Swinefleet, near Goole.
Hornsby, Robert	Estate Office, Hovingham.
Horsfall, Richard	Post Office Buildings, George Street, Halifax.
Horsfall, Richard Edgar .	Post Office Buildings, George Street, Halifax.
Innocent, Charles John . .	Sheffield.
Jackson, Benjamin Whitehead	George Street, Halifax.
Jackson, Samuel	33, Kirkgate, Bradford.
Johnson, Charles Haywood .	1, St. James' Street, Sheffield.
Jolly, John Hawkins . . .	29, East Mount Road, York.
Jones, James William . . .	54, Caledonian Road, Leeds.
Kaye, John Edward . .	Bretton Lodge, Wakefield.
Kirkby, Herbert	Lythe Hall, near Whitby.
Lawton, Charles Henry John Victor	St. Helen's Chambers, Davygate, York.
Lofthouse, Roger	62, Albert Road, Middlesborough-on-Tees.
Marshall, Peter	8, George Street, Sheffield.
Massie, Frank	Tetley House, Kirkgate, Wakefield.
May, Thomas Henry . . .	6, Times Buildings, Bow Street, Sheffield.
Milnes, Eli	99, Swan Arcade, Bradford.
Mitchell - Withers, John Brightmore	Surrey Street, Sheffield.
Newsam, Samuel Waterhouse	3, East Parade, Leeds.
Oldroyd, Linley	5, Oxford Place, Leeds.
Piercy, Henry Onslow . .	The Elms, Lowthorpe.
Peirson, George Brodrick .	Baldersby, Thirsk.

Popple, John	Groves Hall, Sleights, near Whitby.
Richardson, John	Methley Park, Leeds.
Rutherford, James	Kirk-leatham, Redcar.
Sampson, George	Beauchief Abbey, Sheffield.
Sampson, William	Beauchief Abbey, Sheffield.
Smith, Frederic Ellison	21, Tyrrell Street, Bradford.
Smith, Harry Russell	Exchange Buildings, Bradford.
Smith, Joseph	21, Tyrrell Street, Bradford.
Smith, Wheater	17, Hampton Place, Bradford.
Swetenham, Henry	Nidd, Ripley, Yorkshire.
Tiffen, John Henry	Conservancy Buildings, Hull.
Tiffen, Joseph	Conservancy Buildings, Hull.
Todd, William Henry	County Buildings, Hull.
Wade, John	10, Pitt Street, Barnsley.
Walker, Francis Elliott	Blake Street, York.
Wellsted, William Henry	Manor Street, Hull.
White, Alfred Edward	Town Hall, Hull.
Wilde, William	Brockett House, Sharrow, Sheffield.
Winn, Thomas	5, Park Lane, Leeds.
Woodhead, William Booth	18, Exchange Buildings, Bradford.
Wright, James	Rawcliffe, near Selby.

Total, 94 Members.

(D.) SALOP AND HEREFORD COMMITTEE.

Chairman.

Henry James Wyley, Bridgnorth, Salop.

Apperley, William Harvard	Hereford.
Ashdown, Augustus Harding	Uppington, near Willington, Salop.
Bather, John T.	9, The Square, Shrewsbury.
Brown, John Powles	21, East Street, Hereford.
Burd, Laurence	Mayfield, Shrewsbury.
Burd, Timotheus Henry	School Gardens, Shrewsbury.
Davis, Alfred Thomas	Shire Hall, Shrewsbury.
De Wend, William Fenton	New Market Buildings, Bridgnorth.
Dodgson, Wilfred Longley	The Court, Cleobury North, Bridgnorth, and 55, Broad Street, Ludlow.
Evans, William Ernest	School Gardens, Shrewsbury.
Fenn, Thomas	Downton Castle, Ludlow.
Godsell, George Herbert	Palace Chambers, King Street, Hereford.
Griffiths, Edward, Jun.	Knockin, near Oswestry.

Hall, William Timothy . .	Talbot Chambers, Shrewsbury.
Haywood, Henry	9, West Street, Hereford.
Haywood, William Mathews.	9, West Street, Hereford.
Hickman, Thomas	Leaton, near Shrewsbury.
Lane, Cecil Newton . . .	Whiston Hall, Shifnal, Salop.
Lawford, William Robinson .	Underhill, Oswestry.
Loring, John	Hinstock, Market Drayton.
Madge, John	Hope End Estate Office, Ledbury.
Millyard, John William . .	Estate Office, Saltmarshe Castle, Bromyard.
Morris, Edward Henry . .	Chirbury, Salop.
Newill, Robert Henry . .	Lydbury North, Shropshire.
Owen, Henry	Dana Chambers, Shrewsbury.
Parker, John	Mansion House, Hereford.
Selby-Bigge, Charles P. O. .	Bourton Estate Office, Much Wenlock, Shropshire
Southwell, Charles Josiah .	Hook Field House, Bridgnorth, Salop.
Swettenham, William Norman	The Old School House, Shrewsbury.
Thursfield, Thomas Howells	Barrow, Brosely, Salop.
Tower, Brownlow Richard Christopher	Bridgewater Estate Office, Ellesmere, Salop.
Ward, Felix John	Crowsmoor, Aston-on-Clun, Salop.
Wolley, Thomas John . . .	Clungunford Estate Office, Aston-on-Clun, Salop.
Wyley, William John . . .	2, School Chambers, Shrewsbury.

Total, 35 Members.

(E.) DERBY AND STAFFORD COMMITTEE.

Chairman.

Charles Henry Inge, Broom Leasoe, Whittington, Lichfield.

Arnold, William	23, George Street, Tamworth.
Boothby, Henry Vernon . .	Estate Office, Keele, and Newcastle-under-Lyme.
Bower, William John . . .	6, St. James' Street, Derby.
Brailsford, Henry	Park Nook, near Derby.
Byron, Augustus William .	Sutton Estate Offices, Duckmanton, Chesterfield.
Duncalfe, Henry George .	102, Darlington Street, Wolverhampton.
Eardley, John William . .	Swanwick Colliery, Alfreton, Derbyshire.
Eayrs, John Thomas . . .	Town Hall, West Bromwich.
Fawkes, Algernon	Sudbury, Derby.
Foden, Edward Antrobus. .	Teddesley Estate Office, Penkridge, Staffs.
Forshaw, Edward	Basford, Stoke-upon-Trent.
Fuller, Thomas Alfred . .	The College, All Saints, Derby.

HARDY, RICHARD THOMAS ASH .	Estate Offices, Marchington, Staffs.
HEATON, GEORGE HERBERT . .	Endon, near Stoke-upon-Trent.
HUBBERSTY, HENRY ALFRED .	Buxton, Derbyshire.
HUSSEY, ROBERT	Brereton, Rugeley.
JEUDWINE, WILLIAM WYNNE .	Chesterfield.
LYNAM, CHARLES	Stoke-on-Trent.
MARGEREson, CHARLES FREDERIC	New Square, Chesterfield.
MARTIN, GILSON	Chatsworth, Chesterfield.
MURRAY, GILBERT	Elvaston Estate Office, Derby.
MYNORS, WALTER CHARLES TOWERS	Little Ingestre, Stafford.
NEVITT, GEORGE	Church Street, Rugeley.
NOCK, BENJAMIN BOWEN . .	48, Queen Street, Wolverhampton.
PARKIN, JOHN ROBERT . . .	Idridgehay, near Derby.
SAMPSON, GEORGE	Beauchief Abbey (near Sheffield), Derbyshire.
SANDY, HENRY	Newport Road, Stafford.
SHAW, JOHN	College Place, Derby.
SHAW, JOHN, JUN.	The College, All Saints, Derby.
THORPE, CHRISTOPHER . . .	Chesterfield.
TURNOR, EXSUPERIUS WESTON .	The Green, Stafford.
WHITTON, JOHN WILLIAM . .	34, Corn Market, Derby.
WINTERTON, HARRY JOHN CAMPION	Walton Warren, Burton on Trent.
WINTERTON, WILLIAM MOXON .	St. Mary's Chambers, Lichfield.
WRIGHT, JAMES	Irongate, Derby.

Total, 36 Members.

(F.) NOTTINGHAM AND LINCOLN COMMITTEE.

Chairman.

JOHN TURNER, The Grange, Ulceby, Lincs.

ABBOTT, WILLIAM	Holbeach, Lincs.
BAILEY, WILLIAM SMITH . .	4, Kirkgate, Newark-upon-Trent.
BAINES, MATTHEW TALBOT . .	The Hall, Bawtry, Notts.
BARNES, JOHN WILLIAM JAMES .	Brougham Chambers, Wheeler Gate, Nottingham.
BEAUMONT, CHARLES. . . .	East Bridgford, near Nottingham.
BEAUMONT, GEORGE	East Bridgford, near Nottingham.
BELL, JOSEPH ASKEW . . .	Rufford Estate Office, Ollerton, Notts.
BIRKETT, WILLIAM	Don Villa, Cleethorpe Road, Grimsby.
BOWLEY, JOHN CROSS . . .	Beeston, Nottingham.
CALVERT, ARTHUR RICHARD. .	14, Low Pavement, Nottingham.
CAVE, HENRY H.	Manor House, Brigg, Lincs.

Corby, Joseph Boothroyd. .	Scotgate, Stamford.
Crofts, Ewan Neville . .	Leadenham, Grantham, Lincs.
Evans, Robert	Eldon Chambers, Wheeler Gate, Nottingham.
Gilpin-Brown, William Dundas	Metheringham, Lincs.
Green, Valentine	11, Elmer Street, Grantham.
Hawley, Henry Michael . .	Tumby Lawn, Boston.
Haynes, Henry	Estate Office, Clifton, Nottingham.
Higgins, Frederic	Alford, Lincs.
Hine, George Thomas. . .	Victoria Street, Nottingham.
Huskinson, Thomas William .	Epperstone Manor, Nottingham.
Huskinson, William Lambe .	Manor House, Epperstone, Notts.
Jackson, Frederick . . .	Nottingham.
Jackson, Frederick William .	18, Low Pavement, Nottingham.
Kingston, Samuel	Spalding, Lincs.
Legard, Digby Charles . .	Tealby, Market Rasen, Lincs.
Lister-Kaye, Charles Wilkinson	Osberton, Worksop, Notts.
Manners, Henry Alfred . .	Buckminster Park, near Grantham.
Martin, Walter	Wainfleet, Lincs.
Mason, Charles.	Westgate, Louth, Lincs.
Morris, Charles	The Lodge, Radcliffe-on-Trent, Notts.
Neale, Charles James . .	High Oakham, Mansfield, Notts.
Parkin, William	Babworth, Retford, Notts.
Richardson, Charles . . .	15, Barn Hill, Stamford, Lincolnshire.
Richardson, James	15, Barn Hill, Stamford.
Tindall, Charles William .	Scawby, Brigg, Lincs.
Turner, Frederick John . .	Mansfield Woodhouse, Notts.
Turner, Thomas Warner . .	Welbeck Abbey, Worksop, Notts.
Turton, Edward James . .	Horkstow, Barton-on-Humber, Lincolnshire.
Vallance, Robert Frank .	Mansfield, Notts.
Walker, George Booth . .	Wainfleet, R.S.O., Lincolnshire.
Walker, Herbert	Newcastle Chambers, Angel Row, Nottingham.
Walker, Joseph.	Lenton Avenue, The Park, Nottingham.
Walker, Joshua.	Market Place, Retford, Notts.
Wigram, John	South Collingham, Newark, Notts.
Woolley, Reginald . . .	Silver Street, Lincoln, and South Collingham, Notts.
Woolley, Thomas Cecil Smith	South Collingham, Newark, Notts.
Wordsworth, Robert Walter	Whitemoor, Ollerton, Nottinghamshire.
Wright, Charles William .	Wollaton.
Wright, William	Wollaton, Notts.

Total, 51 Members.

(G.) MONMOUTHSHIRE AND SOUTH WALES COMMITTEE.

Chairman.

JOHN MORGAN DAVIES, Froodvale, Llanwrda, South Wales.

BLAKE, GEORGE	Stradey Estate Office, New Road, Llanelly.
BLOSSE, EDWARD F. LYNCH .	Charles Street Chambers, Cardiff.
BROWN, THOMAS FORSTER . .	Guildhall Chambers, Cardiff.
COLES, SAMUEL HOOD COWPER .	Penmyarth, Crickhowell, South Wales.
CORBETT, EDWARD WORTLEY MONTAGUE	Bute Estate Office, Castle Street, Cardiff.
DAVID, EDMUND USHER . . .	Llandaff, near Cardiff.
EVANS, ARTHUR OWEN . . .	Town Hall, Pontypridd.
FORREST, ROBERT	Windsor Estate Office, St. Fagan's, near Cardiff.
GRAHAM, ARTHUR GORE . .	Victoria Chambers, Newport, Mon.
GRAHAM, WILLIAM	Victoria Chambers, Newport.
GRIFFITHS, WILLIAM . . .	Gelley Wernen Estate, Llanelly, Carmarthenshire.
HARPUR, WILLIAM	Town Hall, Cardiff.
HITCHCOX, WILLIAM	Victoria Chambers, Newport.
LLEWELLIN, DAVID MORGAN . .	Glanwern Offices, Pontypool.
OWEN, THOMAS HENRY . . .	High Street, Haverfordwest, Pembrokeshire.
OWEN, THOMAS RULE . . .	High Street, Haverfordwest, Pembrokeshire.
PRICE, FRANCIS HOLBORROW GLYNN	Longlands Place, Swansea.
REES, ITHEL TREHARNE . . .	Guildhall Chambers, Cardiff.
REES, WILLIAM GEORGE . .	Holly House, Newport.
REES, WILLIAM JOHN . . .	Cradock Street, Swansea.
RIGG, CHARLES	24, High Street, Cardiff.
ROONEY, SAMUEL	Caledonian Chambers, Cardiff.
ROSSER, WILLIAM	Rhydyrhelig, Swansea, and Llanelly, Carmarthenshire.
SHEPPARD, OSBORNE	Glynelydach, Neath.
TANNER, WILLIAM	Lynhurst, Newport.
THOMAS, GEORGE	Queen's Chambers, Cardiff.
THOMAS, WILLIAM	Castlemartin Court, near Pembroke.
WANKLYN, PHILLIP ENDELL .	Dixton, near Monmouth.
WARING, CHARLES EDWARD .	1, Charles Street, Crockherbtown, Cardiff.
WILKINS, WILLIAM	38, Thomas Street, Llanelly.
WILLIAMS, GERALD GARNOUS .	Abercamlais, Brecon.
WILLIAMS, WILLIAM HERBERT .	Llandaff, Cardiff.

Total, 33 Members.

(H.) WARWICK AND WORCESTER COMMITTEE.

Chairman.

WILLIAM THOMAS EXHAM FOSBERY, Warwick.

BETTRIDGE, EDWARD . . .	28, Waterloo Street, Birmingham.
BUCK, ALBERT	Worcester.
BUCK, HERBERT WILSON . .	Pierpoint Street, Worcester.
CLARKE, ALFRED DUDLEY . .	Estate Office, Abberley, Stourport.
CLARKE, RICHARD	Parish Offices, Birmingham.
COUCHMAN, HENRY BOTELER .	5, Avon Place, Warwick.
COUCHMAN, ROBERT EDWARD .	35, Paradise Street, Birmingham.
DEER, EDWARD	Stratford-on-Avon.
DONNE, HENRY	Leek Wootten, Warwick.
EVANS, WALTER PEARSON . .	Caldwell, Nuneaton.
EVERILL, FRANK	59, Foregate Street, Worcester.
FAYERMAN, GEORGE METCALF .	88, The Parade, Leamington.
FIDDIAN, WILLIAM	Town Hall Offices, Stourbridge.
FOWLER, GERARD EDMUND . .	93, New Street, Birmingham.
FOWLER, HENRY.	6, Waterloo Street, Birmingham.
FOWLER, RICHARD	118, Colmore Row, Birmingham.
FOWLER, WILLIAM	69, Temple Row, Birmingham, and Sutton Coldfield.
GIBSON, DENSTON	93, New Street, Birmingham.
GODFREY, ROBERT	Valentine Road, King's Heath, Birmingham.
GREEN, JOHN.	Sunnyside, Wake Green Road, Moseley, Birmingham.
GRIMLEY, EDWIN FEARNE . .	40, Temple Street, Birmingham.
GRIMLEY, THOMAS	40, Temple Street, Birmingham.
HEDLEY, ROBERT WILKIN . .	31A, Colmore Row, Birmingham.
HENDRIKS, HENRY	25, Cannon Street, Birmingham.
HOLBECHE, ROBERT NEVILLE .	21, Bennett's Hill, Birmingham.
JENKINS, OSWALD	57, Colemore Row, Birmingham.
JOSELAND, CHARLES	Bank Buildings, Kidderminster.
KENWRICK, GEORGE	83, Colmore Row, Birmingham.
KING, HENRY	Stourbridge.
LUDLOW, WALTER ROBERT . .	18, New Street, Birmingham.
MARGETTS, JOHN WILLIAM . .	12, High Street, Warwick.
MASON, WILLIAM ARTHUR . .	31A, Colmore Row, Birmingham.
MATHEWS, GEORGE SPENCER .	15, Waterloo Street, Birmingham.
MATHEWS, WILLIAM	15, Waterloo Street, Birmingham.
PARKER, WILLIAM HENRY . .	3, Foregate Street, Worcester.
PEMBERTON, CHARLES OLIVER PAGET	69, Temple Row, Birmingham.

Raikes, Col. George Whittington	Ragley Estate Office, Alcester, Redditch.
Righton, Edward Grantham	High Street, Evesham, Worcestershire.
Robins, William Henry	82A, New Street, Birmingham.
Roderick, John	2, Temple Row, West Birmingham.
Sanders, Thomas	148, Worcester Street, Bromsgrove.
Smith, Frank	37, Cannon Street, Birmingham.
Smith, Frank William	Beauchamp Hill, Milverton, Leamington.
Smith, William	Abbott's Salford, Evesham.
Stallard, William	Estate Office, Madresfield, Malvern Link.
Tomson, James John	Windsor Estate Office, Barnt Green, near Redditch.
Whittindale, James	The Poplars, Kenilworth.
Williams, Edward	City Chambers, 82, New Street, Birmingham.
Willmot, George Dyott	6, Waterloo Street, Birmingham.
Willmot, John	6, Waterloo Street, Birmingham.

Total, 51 Members.

(I.) LEICESTERSHIRE, NORTHAMPTONSHIRE, AND RUTLAND COMMITTEE.

Chairman.

Henry Humphreys, Woodhouse, Loughborough.

Bletsoe, Henry Hopkinson	Thrapstone, Oundle.
Bolam, Charles Godfrey	Estate Office, Boughton House, Kettering, Northamptonshire.
Cave, Thomas Newman	Horton, Northampton.
Clare, Edward Lovell	33, Friar Lane, Leicester.
Clare, William Harcourt Lovell	33, Friar Lane, Leicester.
Clough-Taylor, Horace George	Friar Lane, Leicester.
Cutlan, John Ellis	Market Square, Wellingborough.
Dickson, Thomas Arthur	Estate Office, Overstone Park, Northampton.
Draper, Arthur Thomas	39, Friar Lane, Leicester.
Edwardes, Charles Bidwell	The Precincts, Peterborough.
Everard, John Breedon	6, Millstone Lane, Leicester.
Fisher, Charles Browning	Hill Crest, Market Harborough.
Fisher, Edward Knapp	Market Harborough, Leicestershire.
Formby, Geoffry Oswald	Exton, Oakham.

GERMAN, GEORGE	Ashby-de-la-Zouch.
GERMAN, HARRY	Loughborough and Ashby-de-la-Zouch.
GERMAN, JOHN	Ashby-de-la-Zouch.
GODDARD, JOSEPH	Market Street, Leicester.
GOODACRE, JOHN	5, Friar Lane, Leicester.
GOODACRE, ROBERT JOHNSON .	Friar Lane, Leicester.
GREEN, VALENTINE	Knipton, near Grantham.
HAMPTON, WILLIE THOMAS . .	Coalville, Leicester.
HINCKS, HENRY THORP . . .	Blaby, Leicester.
HODSON, GEORGE	Town Hall, Loughborough.
HOLLOWAY, HARRY HOWNAM .	Market Harborough.
HUMPHREYS, JOHN HENRY . .	Woodhouse, Loughborough.
JOYCE, JOHN HALL	Blackfordby, Leicestershire, near Burton-on-Trent.
LAW, EDMUND	29, Abingdon Street, Northampton.
LYSTER, THOMAS RICE SOMERVILLE	Bedford Office, Thorney, Peterborough.
MARSON, THOMAS	Higham, Hinckley, and Leicester.
MARTIN, ROBERT FREWIN . .	Mountsorrel, Loughborough.
MERRY, THOMAS	2, Guildhall Road, Northampton.
MILES, WILLIAM FREDERICK .	37, Friar Lane, Leicester.
NORMAN, CECIL MANNERS . .	Huncote House, Leicester.
PERKINS, JOSEPH	Laughton, Rugby.
ROLLESTON, JOHN FOWKE LANCELOT	Grey Friars, Leicester.
ROLLESTON, WILLIAM GUSTAVUS STANHOPE	Grey Friars, Leicester.
ROYCE, DAVID NEEDHAM . .	Oakham.
ROYCE, JOHN	Oakham.
SEBASTIAN-SMITH, CHARLES . .	Leicester.
SCRIVEN, RICHARD GEORGE . .	Castle Ashby, Northampton.
THORPE, JOHN	Nailstone, Hinckley.
THORPE, WILLIAM	Nailstone, Hinckley.
WADE, GEORGE TEMPEST . .	Halford Street, Leicester.
WOOLLEY, WILLIAM EDWARD .	Loughborough.

Total, 46 Members.

(J.) CAMBRIDGE, HUNTINGDON, NORFOLK, AND SUFFOLK COMMITTEE.

Chairman.

JOHN CARTER JONAS, 27, Market Hill, Cambridge.

ATKINS, SYDNEY GEORGE . .	The Hall, Coston, Wymondham, Norfolk.
BACON, FRANK MACE . . .	Attleborough, Norfolk.
BACON, HORACE	Attleborough, Norfolk.
BARKER, CALEB	Estate Office, Shadwell, Thetford.
BECK, ARTHUR CLEMENT . .	Castle Rising, King's Lynn, and Sandringham.
BECK, EDWARD WILLIAM . .	City Chambers, Norwich.
BECK, FRANK REGINALD . .	Sandringham.
BIDWELL, CHARLES	Ely, Cambs.
BIRD, JOHN	Brampton, Huntingdon.
BLENCOWE, GEORGE	Bury St. Edmund's.
BOA, ANDREW	Great Thurlow, near Newmarket.
CHALK, HENRY PHILIP . . .	Linton, Cambridgeshire.
COOTE, GEORGE	Smeetham Hall, Sudbury.
DAVEY, JOHN GEORGE ELLIS .	Holkham, Norfolk.
DAVIS, CHARLES EDWARD . .	Kirtling, near Newmarket.
EDWARDES, CHARLES BIDWELL.	The Precincts, Peterborough.
FALCON, MICHAEL	Horstead House, Norfolk.
FARMAR, CHARLES LEWIS ATTERBURY	Wolterton Park, Aylsham.
FERGUSSON, JAMES	Livermore, Bury St. Edmund's.
FREUER, WILLIAM	West Rudham, Swaffham.
GARRARD, NORTON BURROUGHS .	Cranley Hall, Eye.
GAYFORD, HENRY JOHN . . .	Estate Office, East Raynham, Norfolk.
GAZE, THOMAS WILLIAM . .	Frenze Hall, Diss, Norfolk.
GRAIN, ARTHUR TRESS. . .	2, St. Andrew's Hill, Cambridge.
HAWKINS, CHARLES	Downham Market, King's Lynn.
HORNOR, CHARLES JARED . .	32, Prince of Wales Road, Norwich.
HORNOR, FRANCIS	Queen Street, Norwich.
IRELAND, EDWIN BENJAMIN. .	Guestwick, East Dereham.
JONAS, HARRY MARSHALL . .	Brooklands Avenue, Cambridge.
LAURANCE, JOHN	Sexton Barns, Peterborough.
LITTLE, WILLIAM CUTLACK . .	Stag's Holt, March, Cambs.
LOOKER, JOHN	High Street, Huntingdon.
MILLS, SAMUEL MEALING . .	Orford Hill, Norwich.
MORGAN, BENJAMIN BRAUFORD .	Bank Chambers, Norwich.
MOYES, JOHN HELENUS. . .	26, Trinity Street, Cambridge.
PELLS, ARTHUR	Beccles and Lowestoft.

Peppercorn, John Hutchinson	Manor House, Eaton Socon, St. Neot's.
Preedy, Frederick	Caldecot, St. Neot's.
Rix, George Kerry . . .	Somerleyton, near Lowestoft.
Rose, Thomas	13, Bank Street, Norwich.
Rowe, Richard Reynolds . .	Park House, Cambridge.
Salter, William Herbert .	The Hall, Attleborough, Norfolk.
Scott, Augustus Frederic .	24, Castle Meadow, Norwich.
Scott, Henry Lacy . . .	Bury St. Edmund's.
Scriven, Charles Herbert .	Bank Plain, Norwich.
Simpson, Robert Thomas . .	Horsecroft, Bury St. Edmund's.
Spelman, Clement Charles Rix	St. Giles' Street, Norwich.
Spurling, Henry	81, Prince's Street, Ipswich.
Upcher, Edward Berners .	Kirby Cane, Norfolk.
Waters, Frank	1, Sidney Street, Cambridge.
Wilkin, Horace Martin .	King's Lynn.
Woodforde, Lionel Burnet .	Merton, Thetford, Norfolk.
Wright, Thomas	Post Office Terrace, Cambridge.
Wright, William Edward .	King's Lynn.

Total, 55 Members.

(K.) BERKS, BUCKS, AND OXON. COMMITTEE.

Chairman.

Frank Bowry Buckland, Windsor.

Adkin, Charles Duncan . .	Wantage, Berks.
Baker, John.	High Street, Slough, Bucks.
Beever, William Frederick Holt	Greenlands Estate Office, Henley-on-Thames.
Bennett, George	Buckingham.
Bingham, Alfred John . . .	Nalder Hill House, Newbury.
Bruce, Robert Knight . .	Mentmore Estate Office, Leighton Buzzard.
Castle, Arthur	11, King Edward Street, Oxford.
Castle, George Richard . .	Bicester, Oxford.
Castle, Robert	11, King Edward Street, Oxford.
Connop, Newell	Bradfield, Reading.
Cooper, Arthur Leslie . .	86, High Street, Maidenhead.
Deane, Edward.	148, Friar Street, Reading.
Dreweatt, Thomas	Newbury, Berks.
Egerton, Hubert Decimus .	8, New Road, Oxford.
Egginton, John	150, Friar Street, Reading.
Field, Francis Hayward . .	11, King Edward Street, Oxford.

Franklin, Thomas	Ascot, near Wallingford.
Franklin, William Taylor .	Ascot, near Wallingford.
Gale, Joseph John	Market Place, Wallingford.
Galpin, Charles Alexander .	36, Pembroke Street, Oxford.
Gotto, Frederick Edward .	Stoney Stratford, Bucks.
Gurney, James	Chalfont St. Giles, Bucks.
Habgood, Henry Charles .	Witney, Oxon.
Harrison, James Thomas . .	Town Hall Offices, Buckingham.
Haslam, Dryland	17, Friar Street, Reading.
Holiday, Frederick Dean .	Bicester, Oxford.
Jones, Francis William . .	Ascot, near Wallingford.
Lawrence, Arthur	Great Marlow, Bucks.
King, John Busby . . .	Albert Park, and 14, High Street, Abingdon.
Little, William Davis . .	Middleton Stoney, Bicester.
Millar, William Galt . .	10, High Street, Reading.
Neate, Arthur Webb . . .	Albion House, Newbury, and Hungerford.
North, George Frederic . .	Wroxton Estate Office, near Banbury
Nottage, William Griggs .	High Street, Slough, and Windsor.
Parry, Albert Woodward . .	17, Market Place, Reading.
Peto, James Winder . . .	6, Market Place, Reading.
Rich, Robert	Didcot, Berks.
Russel, Robert John . . .	Banbury, Oxon.
Samuel, William John . .	Newport Pagnell, Bucks.
Scroggs, William	Rectory House, Kidlington, Oxford.
Simmons, Charles	Henley-on-Thames.
Simmons, William Auker . .	Henley-on-Thames.
Todd, Richard	Englefield, near Reading.
Vernon, Arthur	Borshams, High Wycombe, Bucks.
Watson, John	Shirburn Castle, Tetsworth.
Wigley, George Davys Edward	Winslow, Bucks.
Wing, William	Caversham, Reading.

Total, 48 Members.

(L.) BEDFORD, ESSEX, HERTFORD, AND MIDDLESEX COMMITTEE.

Chairman.

George Bridge Hilliard, Chelmsford.

Adams, Charles Frederick .	Barkway, Herts.
Austin, Russell Gardiner .	Hertford.
Ayres, Charles Pryor . .	52, High Street, Watford.
Balls, James Mayhew. . .	Castle Hedingham, Essex.
Blewitt, Edward Robert. .	Rainham, Essex.

Brown, Frank John . . .	Tring, Herts.
Burnett, George John Mulcaster	Bylands, Redbourn, Herts.
Chancellor, Frederick . .	Chelmsford.
Coverdale, Frederick John .	Ingatestone Hall, Essex.
Crawter, John	Cheshunt, Herts.
Cumberland, Edward Anthony	Luton and Leighton Buzzard.
Duvall, John William . .	Hertford.
Eve, Herbert Trustram . .	2, St. Paul's Square, Bedford.
Eve, John Richard. . . .	St. Paul's Square, Bedford.
Fenn, John	The Hall, Ardleigh, and 146, High Street, Colchester.
Fenning, Herbert Samuel .	St. Paul's Square, Bedford.
Foulkes, Septimus Giffard .	Tring, Herts.
Harding, Sidney Longhurst .	St. Alban's, Herts.
Haughton, William Hoghton.	Highlands, Gt. Barford, St. Neot's.
Heron, William Charles .	Uxbridge, Middlesex.
Hilliard, George Edward .	Chelmsford.
Hunt, Thomas	Baldock Street, Ware, Herts.
MacCallum, Alexander Duncan	Romford, Essex.
Newman, Thomas Harry . .	Rayne, Essex.
Nockolds, Martin	Saffron Walden, Essex.
Norman, James Maurice . .	Uxbridge, Middlesex.
Norton, Thomas Herbert .	Park Farm, Woburn, Beds.
Paisley, Joseph	Waresley, Sandy, Beds.
Parker, Charles Alfred . .	Maldon, Essex.
Robinson, Nathaniel Wishart	Marlowes, Hemel Hempstead, Herts.
Rumball. Aubrey	St. Alban's, Herts.
Shilcock, James	Hitchin, Herts.
Stafford, Robert Barry . .	83, High Street, Bedford.
Stanford, Charles Maurice .	23, High Street, Colchester.
Start, Joseph William . .	High Street, Colchester.
Surridge, Joseph Smith . .	Coggeshall, Essex.
Sworder, Hugh	High Street, Epping.
Taylor, Edward Fergusson .	New Barnet.
Thomson, William Cunningham	Estate Office, Luton Hoo, Luton.
Thurnall, John Edward . .	Royston, Herts.
Tretheewy, Henry	Silsoe, Ampthill, Beds.
Vaizey, John George . . .	Bocking, Braintree, Essex.
Waddington, John Allen . .	Bayfordbury, Hertford.
Weall, John.	38, High Street, Watford, Herts.
Woodman, Thomas Foster . .	32, St. Peter Street, St. Alban's.
Woods, Thomas	4 & 5, Church Parade, Hounslow, Middlesex.

Total, 47 Members.

(M.) DEVON AND CORNWALL COMMITTEE.

Chairman.

JOHN GROVES COOPER, Bideford.

BENSON, ROBERT ALAN	Duchy of Cornwall Office, Liskeard.
BODY, JOHN BOND	Old Town Chambers, Plymouth.
BOURNE, ROBERT ELLIOTT	Elwell, Totnes.
BROWN, GEORGE	Roborough House, Barnstable.
COMMIN, FREDERICK CHARLES	7, Bedford Circus, Exeter.
DAINTREE, JOHN OSBORN	"Lola," Teignmouth.
DREW, HENRY	15, Queen Street, Exeter.
DREW, HENRY ALBAN	15, Queen Street, Exeter.
DREW, JOHN GOULD	15, Queen Street, Exeter.
DYMOND, FRANCIS WILLIAMS	Exeter.
ELLIOTT, CHARLES	George Street, Plymouth, and The Fawns, Ermington, Ivy Bridge.
ELLIS, EDWARD	Bedford Chambers, Exeter.
FOSTER, JOSEPH BURGESS	4, Cambridge Street, Plymouth.
FROST, FREDERIC CORNISH	Teignmouth.
HOLCOMBE, JAMES JOHN	The Fawns, Ermington, Ivybridge.
KITTOW, JOHN	West Holm, Launceston.
LETHBRIDGE, WALTER	1, Leigham Villas, Plymouth.
LOCK, WILLIAM HENRY	Instow.
LOVEYS, ARTHUR CLAMPITT	Moretonhampstead.
MICHELMORE, ALFRED	Berry Pomeroy Estate Office, Totnes.
OSMOND, EDWARD	Oakford, Upton Pyne, Devon.
PARSONS, HENRY JOHN DONNE	Bamfylde House, Exeter.
PEARSE, WILLIAM	Stoliford, Modbury.
PINNEY, JOHN GEORGE	Brooklyn House, Axminster.
RENDELL, ARTHUR STEPHEN	Market Terrace, Newton Abbot.
RUNDLE, EDWARD COLLINS	Bedford Estate Office, Tavistock.
SMYTH-RICHARDS, GEORGE COBLEY	Wistlandpound, and 6, Castle Street, Barnstaple.
STOOKE, JAMES	Courtenay Street, Newton Abbot.
SYMONS, PHILIP	Fore Street, Totnes.
TANNER, JOHN MELHUISH	Wembworthy.
THORNE, ARNOLD	Cross Street, Barnstaple.
TROUNSON, JOHN WILLIAM	27, Clarence Street, Penzance.
WARD, DANIEL	8, Courtenay Street, Plymouth.
WARD, FRANK	Burnville, Bridestowe.
WARE, CHARLES EDWIN	Gandy Street Chambers, Exeter.
WATT, ALEXANDER	Princetown.
WHITE, ARTHUR JEFFREY	Wrangaton Manor, Ivybridge, South Devon.
WINDER, GEORGE ALEXANDER	Escot Estate Office, Fairmile, Ottery St. Mary.

Total, 39 Members.

(N.) SOMERSET, GLOUCESTER, AND NORTH WILTS COMMITTEE.

Chairman.

EDWIN HIPPISLEY, 12, Chamberlain Street, Wells.

ANDERSON, ROBERT, JUN. . .	The Barton, Cirencester.
ANDREW, THOMAS HAWKES . .	Williton, Somerset.
BAILEY, STEPHEN	Nynehead, Wellington, Somerset.
BARNES, GEORGE FREDERICK .	Coleshill Highworth, Wilts.
BENNETT, THOMAS OATLEY . .	Bruton, Somerset.
BISHOP, CHARLES	Farringdon Street, Swindon, Wilts.
BRUTON, HENRY WILLIAM . .	Albion Chambers, Gloucester.
COX, GEORGE JAMES . . .	1, Promenade, Cheltenham.
CRUSE, EDMUND	24, Bridge Street, Bristol, and Charleville, Clevedon.
DANIEL, HARRY AUGUSTUS HOOD	Keynsham Manor, Somerset.
EDWARDS, ARTHUR PHIPPEN .	Hutton, near Weston-super-Mare.
FARWELL, FREDERICK GEORGE .	11, Laura Place, Bath.
FERRIS, GEORGE	Milton Manor, Pewsey, Wilts.
FOLEY, JOHN HOWARD . . .	Manvers Street, Trowbridge.
HARLE, JOHN JOSEPH . . .	Tortworth Estate Office, Falfield, Gloucester.
HEARD, HERBERT	Shepton Mallet, Somerset.
HEBDITCH, WILLIAM BENJAMIN .	Stratton, South Petherton, Ilminster, Somerset.
HIPPISLEY, EDWIN MAGGS . .	12, Chamberlain Street, Wells.
HIPPISLEY, WILLIAM JOHN . .	12, Chamberlain Street, Wells.
HOLLOWAY, THOMAS	Chippenham, Wilts.
HUSSEY, FRANK TOOZE . . .	The Grove, Cheddon Fitzpaine, Taunton.
JEANS, MARK	Marlborough, Wilts.
KNOWLES, HENRY	Wotton, Gloucester.
MARSHALL, LIONEL HASLER .	Chippenham, Wilts.
MUNDY, HERBERT	Manvers Street, Trowbridge.
MUNRO, PHILIP	2, St. Stephen's Chambers, New Baldwin Street, Bristol.
MYLNE, WILLIAM JOHN HOME .	Sabrina, Clevedon Road, Weston-super-Mare.
NAPIER, HENRY BURROUGHES .	Chippenham, Wilts.
PARSONS, FRANK DONISTHORPE .	Misterton, Crewkerne.
PARSONS, HENRY	Misterton, Crewkerne.
PARSONS, ROBERT MAURICE PETERS	Misterton, Crewkerne.
PEARD, JOHN GRIGG . . .	North Curry, near Taunton.
PRIDAY, LEWIS HENRY . . .	Longford Court, near Gloucester.
PRITCHETT, ELLIS HERBERT .	Farringdon Street, Swindon, Wilts.
RANSFORD, BENJAMIN HERBERT	Salisbury Lodge, Berkeley, Gloucester.
SADLER, GEORGE WILLIAM . .	467, High Street, Cheltenham.

Scammell, Thomas	14, John Street, Bristol.
Silcock, Thomas Ball . . .	14, Abbey Churchyard, Bath.
Smith, Henry Herbert . .	Chippenham, Wilts.
Spackman, Charles Chantrey.	6, Terrace Walk, Bath.
Spackman, Henry	6, Terrace Walk, Bath.
Sturge, Robert Fowler . .	34, Corn Street, Bristol.
Sturge, William	34, Corn Street, Bristol.
Thomas, Josiah	Athenæum Chambers, Nicholas Street, Bristol.
Trepplin, Ernest C. . . .	Wastern, Wootton Bassett.
Villar, James	1a, Cambray, Cheltenham.
Wainwright, Charles Rawlinson	Shepton Mallet.
Wainwright, Charles Rawlinson, Jun.	Shepton Mallet.
Watkins, Robert Arundel .	Castle Combe, Chippenham.
Whatley, Frederick Ernest.	Cirencester.
Wise, Charles Dacres . .	Toddington, Winchcomb, Gloucester.
Wooler, Walter Hernaman .	Waterloo Street, Weston-super-Mare.

Total, 53 Members.

(O.) HAMPSHIRE, DORSET, AND SOUTH WILTS COMMITTEE.

Chairman.

William Browne Canning, Salisbury.

Allen, George	Estate Offices, Stalbridge, Dorset.
Arnold, Francis . . .	Hambledon, Hants.
Austin, Richard	Bishop's Waltham, Hants.
Austin, Richard, Jun. . . .	Bishop's Waltham, Hants.
Baird, Jonathan Peel . . .	Estate Office, Somerley, Ringwood, Hants.
Bath, Fred	Crown Chambers, Salisbury.
Bird, James Binfield . . .	West Cowes, Isle of Wight.
Blake, Frederick	130, Queen Street, Portsea, Hants.
Blizard, John Henry . . .	Lansdowne House, Castle Lane, Southampton.
Burnett, Alfred Andrew .	2, High Street, Southampton.
Clifton, James Edward . .	Swanage, Dorset.
Cocks, Samuel Roger . . .	5, St. Thomas's Street, Ryde.
Combes, Cyrus	Tisbury, Wilts.
Comely, John Gill	Winchester, Hants.
Crickmay, George Rackstrow	St. Thomas' Street, Weymouth.
Crickmay, John Edward . .	St. Thomas' Street, Weymouth.
Day, George Carleton . .	Estate Office, Woodbridge, Shaftesbury, Dorset.

Duke, Edward	Dorchester.
Duke, Henry, Jun.	Dorchester.
Eames, Edward	Stoke Manor, near Alresford.
Elford, John	King Street, Poole.
Ellen, Frederick Charles	Andover.
Evans, Henry	Newlands Estate Office, Milford-on-Sea, near Lymington.
Gater, Caleb William	Salisbury.
Gudgeon, George Edward	Estate Agency Offices, Winchester.
Hall, Ernest	166, Queen Street, Portsea, Hants.
Hankinson, Thomas James	Richmond Chambers, Bournemouth.
Hannen, Reginald St. John	The Cottage, Fordingbridge, Salisbury.
Harris, James	Winchester.
Hawker, Harry Edwin	St. Peter's Chambers, Bournemouth.
Herbert, Allan	The Market Place, Andover.
Hill, William Burrough	62, Above Bar, Southampton.
Hodgson, Arthur Marriott	4, Albion Place, Southampton.
Inkpen, George Charles	Victoria Road North, Southsea.
Jones, Henry Parr	Portway House, Warminster.
Jurd, William	10, Oxford Street, Southampton.
Kent, George Edward	Normanhurst, Cavendish Road, Southsea.
King, Thomas	Pembroke House, Portsmouth.
King, Sir William David, D.L	Stratford Lodge, Southsea.
Lane, Ernest Lacan	Richmond Chambers, Bournemouth.
Lemon, James	Southampton.
Lightfoot, Henry Le Blanc	Lower Lawn, Tisbury, Salisbury.
Livesay, John Gillett	Cromartie House, Ventnor.
Lywood, Edwin	Norman Court, Clatford, Andover.
Marvin, Albert Edward	Mare Hill, Carisbrooke.
Newman, Francis	Ryde, Isle of Wight.
Newton, Thomas Edwin	45, Jewry Street, Winchester.
Oakley, Edward Benjamin	Nutshaling, Portarlington Road, Bournemouth.
Oliphant, George A. J.	Rushford, Christchurch.
Paterson, Charles	Canford, Wimborne, Dorset.
Perkins, Walter Frank	Portswood House, Southampton.
Pickstock, John	Castle Hill, Winchester.
Rawlence, Ernest Alfred	Newlands, Salisbury.
Rawlence, James	Salisbury.
Rawlence, James Edward	The Canal, Salisbury.
Raynbird, Hugh Edward	Basingstoke, Hants.
Rebbeck, Edward Wise	Gervis Place, Bournemouth.
Rebbeck, Thomas Warren	Gervis Place, Bournemouth.
Richards, George Edward	St. John's Hill, Wimborne.
Riddett, William Hammond	Townhall Chambers, Ryde.

Rigden, Francis	Salisbury.
Rigden, Henry William . .	Salisbury.
Robey, Robert	Oaklands, East Tytherley, near Romsey.
Robinson, Edmund Arthur .	Lee-on-the-Solent, Gosport, Hants.
Roker, Mitchel John . . .	Snowdenham, Branksome Park, Bournemouth.
Rutherford, James Augustine	Highclere Park, near Newbury.
Sanctuary, Campbell Fortescue Stapleton	Mangerton, Melplash, Dorset.
Saunders, Theodore Ridley .	Belgrave Chambers, Ventnor.
Senior, Harry Samuel . . .	Sturminster Newton, Dorset.
Simmons, Charles Franklin .	Basingstoke, Hants.
Smith, Charles Bovill . .	Wykeham House, Fareham, Hants.
Smith, Frederick John . .	21, Portland Street, Southampton, and Basingstoke.
Smith, George Alfred . .	78, Parchment Street, Winchester
Squarey, Elias Pitts . . .	The Moot, Downton, Salisbury.
Squarey, Newell William Pitts	The Moot, Downton, Salisbury.
Stallard, Alfred Edwin . .	West Street, Havant.
Stirton, Thomas	West Stratton, Micheldever.
Stopher, Thomas	Winchester.
Studdy, Thomas Edward . .	Broxton, Chilbolton.
Wallington, John Arthur Beach	Basingstoke, Hants.
Walmisley, Joseph William .	7, King's Terrace, Southsea.
Warner, Henry.	Faringdon, Alton, Hants.
Waters, Edward	The Canal, Salisbury.
Way, Henry James . . .	109, Lower St. James' Street, Newport, Isle of Wight.
Wells, William Howley . .	Estate Office, Evershot.
Westbury, George Henry . .	The Knoll, Andover.
Westbury, Giles	Andover.
Wetherall, Harry Lancaster	Brachlyn, Winchfield.
Wilbraham, Edward Sidney .	Estate Office, St. Giles, Salisbury.
Woolley, John Turton . .	Salisbury.
Young, Charles	Alton, Hants.

Total, 92 Members.

(P.) KENT COMMITTEE.

Chairman.

George Langridge, The Great Hall, Tunbridge Wells.

Ballard, Edmund	Elwick House, Ashford.
Barton, Harry Howell . .	17, Guildhall Street, Folkestone.

Brackett, Arthur William .	27, High Street, Tunbridge Wells.
Brackett, Frederick Henry.	27, High Street, Tunbridge Wells.
Brackett, William . . .	27, High Street, Tunbridge Wells.
Burrows, Alfred John . .	41, Bank Street, Ashford.
Cobb, Herbert Mansfield .	Higham.
Cobb, Robert Lake . . .	Higham.
Cobham, Charles	The Shrubbery, Gravesend.
Cobham, George Radcliffe .	1 and 3, Edwin Street, Gravesend.
Cooke, Henry	Thong, near Gravesend.
Cronk, Edwyn Evans . . .	Sevenoaks.
Cronk, Frank	Sevenoaks.
Cronk, William Henry . .	Sevenoaks.
Dann, Henry	Dartford.
Day, William, Jun. . . .	23, High Street, Maidstone.
Elgar, J. Edward	Crockshard, Wingham.
Finn, Adolphus	High Street, Lydd, and Rye.
Finn, Arthur George . . .	The Deanery, Chartham.
Finn, George William . . .	Westwood Court, Faversham.
Fry, George Frederick . .	46, London Road, Dover.
Harvey, John James Sayer .	80, Castle Street, Canterbury.
Hayward, Henry	Dover.
Hinds, Henry	57, Queen Street, Ramsgate.
Hobbs, John	Guinea Hall, Sellinge, near Hythe.
Homan, Franklin George . .	147, Eastgate, Rochester.
Honeyball, Fred. Thomas .	Deal.
Jackson, William Tress . .	117, High Street, Sittingbourne.
Jennings, William Joseph .	4, St. Margaret's Street, Canterbury.
Kerl, William James . . .	Vescour, Penshurst.
Kidwell, John	St. Margaret's Bank, Rochester.
Langridge, William . . .	The Great Hall, Tunbridge Wells.
Latter, Hugh Robinson . .	3, Market Square, Bromley.
Lepper, John Harrage . .	Town Hall, Bromley.
Lucas, William Edward . .	Bexley.
Mann, Jabez	Sevenoaks.
Morris, Herbert	Lewes, Sussex.
Neame, Frederick, Jun. . .	Macknade, Faversham.
Nethersole, William . . .	Deal.
Neve, Herbert	Hole Park, Rolvenden.
Payne, Frederick	Town Hall, Bromley.
Phillips, Frederick Hamilton	12, Belgrave Gardens, Dover.
Reeve, Kingsnorth . . .	High Street, Lydd, and Rye.
Reid, Francis	Bucksford, Ashford.
Roper, William	3, The Pantiles, Tunbridge Wells.

Seymour, Richard Arthur Hamilton	46, Earl Street, Maidstone.
Slater, George	Canterbury.
Smith, George	Boughton Monchelsea.
Tompsett, William Robert	182, High Street, Tonbridge, and Paddock Wood.
Tootell, Charles	13, King Street, Maidstone.
Tootell, Joseph	13, King Street, Maidstone.
Wacher, Thomas	Upper Bridge Street, Canterbury.
Waring, Herbert Fuller	46, Earl Street, Maidstone
Waterman, Alfred James	20, Week Street, Maidstone.
Waterman, James	Ashford.
Waterman, Richard	20, Week Street, Maidstone.
Webb, George	Tunstall, Sittingbourne.
White, John	49, London Road, Sevenoaks.
Wilks, Richard	Little Mongeham, near Deal.
Wood, William	Cooling Castle, near Rochester.

Total, 61 Members.

(Q.) SUSSEX COMMITTEE.

Chairman.

James Woodhams, 50, Havelock Road, Hastings.

Austen, Frank	Marling Place, Wadhurst.
Bannister, Thomas	Limehurst, Hayward's Heath.
Beard, Edwin Thomas	Wallsend, Pevensey, Sussex.
Burtenshaw, Albert	Hailsham.
Card, Henry Curtis	North Street, Lewes.
Chasemore, Philip	Ashleigh, Horsham.
Colgate, Thomas	Sheffield Park, Uckfield.
Dray, Alfred	Town Hall Chambers, Hastings.
Hobgen, Francis Neale	East Street, Chichester.
Hobgen, Thomas Cecil	East Street, Chichester.
Howard, Harry	17, Clifton Road, Littlehampton.
Hudson, Edward William	Hove.
Ingram, Walter Fielde	83, High Street, Lewes.
King, Frank Hulme	Horsham.
Morris, Herbert	Lewes.
Parsons, Frederick Cecil	9, Marine Parade, Brighton.
Powell, Hubert John	St. Swithun's Estate Offices, Lewes.
Powell, Reginald Henry	St. Swithun's Lane, Lewes.

Smith, Sidney	Southwater, Horsham.
Taylor, Matthew	Northchapel, Petworth.
Turner, Charles	Oakhurst, East Grinstead.
Turner, William Webb . .	9, Clinton Place, Seaford.
Vidler, James Coleman . .	Rye and Hastings.
Watson, Herbert Edward .	New Grove, Petworth.
Welch, Frederick William .	168, North Street, Brighton, and Hastings.
Wilkinson, Thomas . . .	168, North Street, Brighton, and Hastings.
Wood, Frederick	34, Regency Square, Brighton.
Wood, William	Ifield Court, Crawley.
Wyatt, Oliver Newman . .	East Street, Chichester.

Total, 30 Members.

(R.) NORTH WALES AND RADNOR COMMITTEE.

Chairman.

Addie, William Forrester .	Powis Castle Estate Office, Welchpool, Montgomeryshire.
Birch, Walter de Hoghton .	Kerry, Montgomeryshire.
Clough, Richard Charles Butler.	Ty Maur, Denbigh.
Darley, William	Llangwm, Corwen, N. Wales.
Dew, William Arthur . .	Wellfield House, Bangor.
Gillart, David.	Mostyn, Llandudno, Carnarvonshire.
Grant, James	Penrallt, Llanidloes, Montgomeryshire.
Jones, Walter Butler Clough	Mynydd, Ednyfed, Criccieth, Carnarvonshire.
Jones, William Edward .	Anglesey Estate Office, Craig, Llanfair, Anglesey.
Lloyd, George Hamilton. .	Rhayader, Radnorshire.
McIntyre, Peter	Gwydyr Ucha, Llanrwst, N. Wales.
Owen, William Scott . . .	Cefngwifed, near Newtown, Montgomeryshire.
Pickering, William Cloves .	Rhewl House, Mostyn, Flintshire.
Porter, John Merry . . .	Estate Office, Colwyn Bay, N. Wales.
Poundley, John Edward . .	Kerry, Newtown, Montgomeryshire.
Powell, Evan	Broomcliffe, Llanidloes, Montgomeryshire.
Roberts, Thomas	Portmadoc.
Williams, John	Gwernhefin, Bala, Merionethshire.
Williams, Stephen William .	Rhayader, Radnorshire.
Williams, William Lloyd . .	24, High Street, Carnarvon.

Total, 20 Members.

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Local Distribution of Members.

BEDFORDSHIRE.

BEDFORD.
Fellows :—
Eve: Herbert Trustram.
Eve: John Richard.
Fenning: Herbert Samuel.
Stafford: Robert Barry.
Professional Associate :—
Weston: Joseph Aurelius.

CARDINGTON.
Associate :—
Malden: Walter James.

GREAT BARFORD.
Fellow :—
Haughton: William Hoghton.

LUTON.
Fellows :—
Cumberland: Edward Anthony.
Thomson: William Cunningham.
Professional Associate :—
Franklin: Benjamin Belgrove.

SILSOE.
Fellow :—
Trethewy: Henry.

WOBURN.
Fellow:—
Norton: Thomas Herbert.
Professional Associates :—
Hall: Chas. Pell.
Preston: Samuel David.

BERKSHIRE.

ABINGDON.
Fellows :—
Adkin: Charles Duncan.
King: John Busby.

ASCOT.
Fellows :—
Franklin: Thomas.
Franklin: William Taylor.
Jones: Francis William.

BUSCOT.
Professional Associate :—
Crosland, Walter.

COLESHILL.
Fellow :—
Barnes: Geo. Frederick.

DIDCOT.
Fellow :—
Rich: Robert.

ENGLEFIELD.
Fellow :—
Todd: Richard.

BERKSHIRE—*continued.*

HUNGERFORD.
Fellow :—
Neate: Arthur Webb.

MAIDENHEAD.
Fellow :—
Cooper: Arthur Leslie.
Professional Associate :—
Tilly: Hubert Douglas.

NEWBURY.
Fellows :—
Bingham: Alfred John.
Drewatt: Thomas
Neate: Arthur Webb.

PAVENHAM.
Fellow :—
MacCallum: Alexander Duncan.

READING.
Fellows :—
Connop: Newell.
Deane: Edward.
Egginton: John.
Haslam: Dryland.
Millar: William Galt.
Parry: Albert Woodward.
Peto: James Winder.
Wing: William.
Professional Associates :—
Colbourn: Henry James.
Haslam: Dryland, Jun.

WALLINGFORD.
Fellow :—
Gale: Joseph John.
Associate :—
Wells: Alfred Dodd.

WANTAGE.
Fellow :—
Adkin: Charles Duncan.
Professional Associate :—
Belcher: Edward John.

WARESLEY.
Fellow :—
Paisley: Joseph.

WINDSOR.
Fellows :—
Buckland: Frank Bowry.
Buckland: Henry Duncan.
Nottage: William Griggs.
Professional Associate :
Buckland: Sidney Crawford.

BUCKINGHAMSHIRE.

BUCKINGHAM.
Fellows :—
Bennett: George.
Harrison: James Thomas.

BUCKINGHAMSHIRE—*continued.*

HIGH WYCOMBE.
Fellow :—
Vernon : Arthur,
Member of Council.
Professional Associate :—
Phillips : William Dearlove.
Associate :—
Clarke : Daniel.

LEIGHTON BUZZARD.
Fellows :—
Bruce : Robert Knight.
Cumberland : Edward Anthony.
Professional Associate:—
Merry : Arthur Walker.

MARLOW (GREAT).
Fellow:—
Laurence : Arthur.

NEWPORT PAGNELL.
Fellow: —
Samuel : William John.

SLOUGH.
Fellows :—
Baker : John.
Gurney : James.
Nottage : William Griggs.

STONY STRATFORD.
Fellow :—
Gotto : Frederick Edward.

WINSLOW.
Fellow :—
Wigley : George Davys Edward.

CAMBRIDGESHIRE.

BABRAHAM.
Professional Associate :—
Webb : Frederic Noel.

CAMBRIDGE.
Fellows :—
Grain : Arthur Tress.
Jonas : Harry Marshall.
Jonas : John Carter.
Moyes : John Helenus.
Rowe : Richard Reynolds.
Waters : Frank.
Wright : Thomas.
Professional Associate :
Windley : Henry Chadwick.

ELY.
Fellow :—
Bidwell : Charles.
Member of Council.

KIRTLING.
Fellow:—
Davis : Charles Edward.

LINTON.
Fellow :—
Chalk : Henry Philip.

CAMBRIDGESHIRE—*continued.*

LITTLEPORT.
Professional Associate :—
Martin : Heber Gambling.

MARCH.
Fellow :—
Little : William Cutlack.

ROYSTON.
Professional Associate :—
Rowley : William Taylor.

CHESHIRE.

ALTRINCHAM.
Fellow :—
Cocks : Robert.

BIRKENHEAD.
Fellow :—
Mills : William Edward.
Professional Associate :—
Whalley : Frederick Herbert.

CAPESTHORNE.
Fellow :—
Carswell : William.

CHESTER.
Fellows :—
Jones : Isaac Matthews.
Whalley : Henry Shaw.
Professional Associate :—
Whalley : Frederick Herbert.

CREWE.
Fellow :—
McCracken : William.

DUKINFIELD.
Fellow :—
Pearson : Alfred.

ECCLESTON.
Fellow :—
Parker : The Hon. Cecil Thomas.

FRODSHAM.
Fellow:—
Linaker : Charles Edward.

HAUGHTON.
Fellow :—
Owen : Richard Newsham.

KNUTSFORD.
Fellow :—
Smith : John Thompson.

MACCLESFIELD.
Fellow :—
Walsh : Albert Mellor.

MERE.
Fellow:—
Stocks : Frederick William.

MOLLINGTON.
Fellow :—
Davies : John.

CHESHIRE—*continued.*

NORTHWICH.
Professional Associate:—
Tarleton: Roger.

RUNCORN.
Fellow:—
Evans: Charles Lee.

STOCKPORT.
Fellows:—
Brady: Charles Alldis.
Brady: William Hollinshed.
Professional Associate:—
Brady: Ralph Hollinshed.

TARPORLEY.
Fellow:—
Scovell: John.

WILMSLOW.
Professional Associate:—
Halkyard: William Redford.

CORNWALL.

LAUNCESTON.
Fellow:—
Kittow: John.
Associate:—
Cowland: Christopher Lethbridge.

LISKEARD.
Fellow:—
Benson: Robert Alan.

PENZANCE.
Fellow:—
Trounson: John William.

CUMBERLAND.

BRAMPTON.
Professional Associate:—
Punchard: Frederick Burt.

CARLISLE.
Fellows:—
Bowman: John James.
Hayton: Joseph William.
Hayton: Pattinson.

COCKERMOUTH.
Fellow:—
Clutton: William James.

EDENHALL.
Fellow:—
Richardson: George.

PENRITH.
Fellows:—
Birkett: Tom.
Heskett: William James.
Hudson: James.
Little: William.

WHITEHAVEN.
Fellow:—
Stanley-Dodgson: Stanley Dickinson.

WORKINGTON.
Fellow:—
Potts: James.

DERBYSHIRE.

ALFRETON.
Fellow:—
Eardley: John William.

BAKEWELL.
Professional Associate:—
Longsdon: Ernest Morewood.

BEAUCHIEF ABBEY.
Fellows:—
Sampson: George.
Sampson: William.

BRETBY.
Professional Associate:—
Campbell: Colin.

BUXTON.
Fellow:—
Hubbersty: Henry Alfred.

CHESTERFIELD.
Fellows:—
Jeudwine: William Wynne.
Margereson: Charles Frederic
Martin: Gilson.
Thorpe: Christopher.

DERBY.
Fellows:—
Bower: William John.
Brailsford: Henry.
Fuller: Thomas Alfred.
Murray: Gilbert.
Parkin: John Robert.
Shaw: John,
Member of Council.
Shaw: John, Jun.
Whitton: John William.
Wright: James.
Professional Associate:—
McCallum: Peter Service.
Associate:—
Strutt: The Hon. Frederick.

DUCKMANTON.
Fellow:—
Byron: Augustus William.

SHIPLEY.
Fellow:—
Sebastian-Smith: Charles.

SUDBURY.
Fellow:—
Fawkes: Algernon.

DEVONSHIRE.

AXMINSTER.
Fellow:—
Pinney: John George.

BARNSTAPLE.
Fellows:—
Brown: George.
Smyth-Richards: George Cobley.
Thorne: Arnold.
Professional Associate:—
Watson: Claude Henry.

DEVONSHIRE—*continued.*

BEERALSTON.
Fellow :—
Ward: Daniel.

BIDEFORD.
Fellow :—
Cooper: John Groves.

BRIDESTOWE.
Fellow :—
Ward: Frank.

BROAD-CLYST.
Associate :—
Acland: Sir Thomas Dyke, Bart.

ERMINGTON.
Fellow:—
Holcombe: James John.

EXETER.
Fellows :—
Commin: Frederick James.
Drew: Henry,
Member of Council.
Drew: Henry Alban.
Drew: John Gould.
Dymond: Francis Williams.
Ellis: Edward.
Parsons: Henry John Donne.
Ware: Charles Edwin.

DEVONPORT.
Associate :—
Venning: John James Edgcombe.

INSTOW.
Fellow :—
Lock: William Henry.

IVYBRIDGE.
Fellows :—
Elliott: Charles.
White: Arthur Jeffrey.

MAMHEAD.
Professional Associate :—
Wheeler: Chas. Trevor Ogle.

MODBURY.
Fellow :—
Pearse: William.

MORETONHAMPSTEAD.
Fellow :—
Loveys: Arthur Clampitt.

NEWPORT.
Professional Associate :—
Bowden: John Friendship.

NEWTON ABBOT.
Fellows :—
Rendell: Arthur Stephen.
Stooke: James.

OTTERY ST. MARY.
Fellow :—
Winder: George Alexander.

DEVONSHIRE—*continued.*

PAIGNTON.
Professional Associate :—
Pridham: John Lawrence.

PLYMOUTH.
Fellows :—
Body: John Bond.
Elliott, Chas.
Foster: Joseph Burgess.
Lethbridge: Walter.
Ward: Daniel.
Professional Associate:—
Body: Arthur.

PRINCETOWN.
Fellow :—
Watt: Alexander.

TAVISTOCK.
Fellow :—
Rundle: Edward Collins.

TEIGNMOUTH.
Fellows :—
Daintree: John Osborn.
Frost: Frederic Cornish.

TOTNES.
Fellows :—
Bourne: Robert Elliott.
Michelmore: Alfred.
Symons: Philip.
Professional Associate :—
Watson: Richard.

UPTON PYNE.
Fellow :—
Osmond: Edward.

WEMBWORTHY.
Fellow :—
Tanner: James Melhuish.

DORSETSHIRE.

DORCHESTER.
Fellows :—
Duke: Edward.
Duke: Henry, Jun.

EVERSHOT.
Fellow :—
Wells: William Howley.

MELPLASH.
Fellow:—
Sanctuary: Campbell F. S.

POOLE.
Fellow :—
Elford: John.

SHAFTESBURY.
Fellow :—
Day: George Carleton.

STALBRIDGE.
Fellow :—
Allen: George.

DORSETSHIRE—*continued.*

STURMINSTER-NEWTON.
Fellow :—
Senior: Harry Samuel.

SWANAGE.
Fellow :—
Clifton: James Edward.

WEYMOUTH.
Fellows :—
Crickmay: George Rackstrow.
Crickmay: John Edward.

WIMBORNE.
Fellows :—
Paterson: Charles.
Richards: George Edward.
Professional Associate :—
Golightly: Chas. Hugh.

DURHAM.

BARNARD CASTLE.
Fellow:—
Wells: Edwin.

BLACKHILL.
Fellow :—
Oliver: Charles Edward.

BRANCEPETH.
Fellow: —
Peirson: Henry Thomas.

CHESTER-LE-STREET.
Fellow :—
Clark: Nathaniel.

DARLINGTON.
Fellows :—
Eade: Arthur Willoughby French.
Minter: William.
Scarth: William T.

DURHAM.
Fellows :—
Rowlandson: Christopher.
Wall: George Young.

GATESHEAD-ON-TYNE.
Fellow :—
Wallace: Henry.

KEVERSTONE.
Fellow :—
Bainbridge; Robert Stagg.

SEAHAM-HARBOUR.
Fellow :—
Brydon: Robert.

STOCKTON-ON-TEES.
Fellows :—
Curry: Henry John.
Rodham: John.

DURHAM—*continued.*

SUNDERLAND.
Fellows :—
Green: Robert Couper.
Hedley: John Hunt.
Hedley: Thomas Fenwick.

WINDLESTONE.
Fellow :—
Rudman: Sydney Charles.

ESSEX.

ARDLEIGH.
Fellow :—
Fenn: John.

BRAINTREE.
Fellow :—
Vaizey: John George.

CASTLE HEDINGHAM.
Fellow :—
Balls: James Mayhew.

CHELMSFORD.
Fellows :—
Chancellor: Frederick.
Hilliard: George Bridge.
Hilliard: George Edward.
Professional Associates :—
Christy: Archibald Ernest.
Petre: Robert George.
Phillips: George Cawkwell.
Associate :—
Gepp: Charles Bramston Osborne.

CHIGWELL.
Fellow :—
Savill: Alfred.

COGGESHALL.
Fellow ;—
Surridge: Joseph Smith.

COLCHESTER.
Fellows :—
Fenn: John.
Moore: Harold Edward.
Stanford: Charles Maurice.
Start: Joseph William.
Professional Associate :—
Grimwade: Henry.

EPPING.
Fellow :—
Sworder: Hugh.

GRAYS.
Fellow :—
Cobham: Charles.

HATFIELD PEVEREL.
Fellow :—
Strutt: The Hon. Edward Gerald.

INGATESTONE.
Fellow :—
Coverdale: Frederick John.

ESSEX—*continued.*

MALDON.
Fellow :—
Parker : Charles Alfred.

ORSETT.
Professional Associate :—
Kemp-Smith : James Frederick.

RAINHAM.
Fellow :—
Blewitt : Edward Robert.

RAYNE.
Fellow :—
Newman : Thomas Harry.

ROMFORD.
Fellow :—
MacCallum : Alexander Duncan.

SAFFRON WALDEN.
Fellow :—
Nockolds : Martin.
Professional Associates :—
Nockolds : Alfred George.
Nockolds : Martin Charles Hubert.

SOUTHEND-ON-SEA.
Fellow :—
Tapp : Arthur.

WALTHAM-ABBEY
Fellow :—
Chetwood : Stephen.

WENDEN.
Professional Associate :—
Robinson : Martin Catlin.

WOODFORD.
Fellows :—
Kemsley : Joseph William
Lee : Philip Shirling.
Theobald : Henry.

GLOUCESTERSHIRE.

BERKELEY.
Fellow :—
Ransford : Benjamin Herbert.

BRISTOL.
Fellows :—
Cruse : Edmund.
Munro : Philip.
Scammell : Thomas.
Sturge : Robert Fowler.
Sturge : William,
Past-President.
Thomas : Josiah.
Professional Associate :—
Sturge : Theodore.

CHELTENHAM.
Fellows :—
Cox : George James.
Sadler : George William.
Villar : James.
Professional Associate :—
Stucké : William Henry.

GLOUCESTERSHIRE—*continued.*

CIRENCESTER.
Fellows :—
Anderson : Robert, Jun.
Whatley : Frederick Ernest.
Associate :—
Kinch : Edward.

FALFIELD.
Fellow :—
Harle : John Joseph.

GLOUCESTER.
Fellow :—
Knowles : Henry.

STROUD.
Professional Associate :—
Pelham-Clinton : Hubert Edward.

TODDINGTON.
Fellow :—
Wise : Charles Dacres.

HAMPSHIRE.

ALRESFORD.
Fellow :—
Eames : Edward.

ANDOVER.
Fellows :—
Ellen : Frederick Charles.
Herbert : Allan.
Westbury : George Henry.
Westbury : Giles.
Professional Associate :—
Hooper : Alfred Frederick.

BASINGSTOKE.
Fellows :—
Raynbird : Hugh Edward.
Simmons : Charles Franklin.
Simmons : William Anker.
Wallington : John Arthur Beach.

BISHOP'S WALTHAM.
Fellows :—
Austin : Richard.
Austin : Richard, Jun.

BOURNEMOUTH.
Fellows :—
Hankinson : Thomas James.
Hawker : Harry Edwin.
Lane : Ernest Lacan.
Oakley : Edward Benjamin.
Rebbeck : Edward Wise.
Rebbeck : Thomas Warren.
Roker : Mitchel John.
Professional Associate :—
Wight : Norman.

CARISBROOKE.
Fellow :—
Marvin : Albert Edward.

CLATFORD.
Fellow :—
Lywood : Edwin.

HAMPSHIRE—*continued.*

CHILBOLTON.
Fellow :—
Studdy: Thomas Edward.

CHRISTCHURCH.
Fellow :—
Oliphant: George A. J.

EAST TYTHERLEY.
Fellow :—
Robey: Robert.

FAREHAM.
Fellow :—
Smith: Charles Bovill.

FARINGDON.
Fellow :—
Warner: Henry.

FORDINGBRIDGE.
Fellow :—
Hannen: Reginald St. John.

GOSPORT.
Fellow:—
Robinson: Edmund Arthur.

HAMBLEDON.
Fellow :—
Arnold: Francis.

HAVANT.
Fellow :—
Stallard: Alfred Edwin.

HIGHCLERE.
Fellow :—
Rutherford: James Augustine.

MICHELDEVER.
Fellow:—
Stirton: Thomas.
Professional Associate :—
Pain: James.

MILFORD-ON-SEA.
Fellow:—
Evans: Henry.

NEWPORT.
Fellow :—
Way: Henry James.

PETERSFIELD.
Professional Associate :—
Mitchell: George Sharman.

PORTSMOUTH.
Fellow : —
King: Thomas.

HAMPSHIRE—*continued.*

PORTSEA.
Fellows :—
Blake: Frederick.
Hall: Ernest.
Kent: George Edward.
King: Thomas.
King: Sir William David.

RINGWOOD.
Fellow :—
Baird: Jonathan Peel.

RYDE.
Fellows :—
Cocks: Samuel Roger.
Newman: Francis.
Riddett: William Hammond.

SOUTHAMPTON.
Fellows :—
Blizard: John Henry.
Burnett: Alfred Andrew.
Hill: William Burrough.
Hodgson: Arthur Marriott.
Jurd: William.
Lemon: James.
Perkins: Walter Frank.
Smith: Frederick John.

SOUTHSEA.
Fellows :—
Inkpen: George Charles.
Kent: George Edward.
King: Sir William David, D.L.
Walmisley: Joseph William.

TOTTON.
Professional Associate :—
Paterson: Andrew Thompson.

UPTON GRAY.
Associate :—
Seth-Smith: Frederick.

VENTNOR.
Fellow :—
Livesay: John Gillett.
Saunders: Theodore Ridley.

WEST COWES.
Fellow :—
Bird: James Binfield.

WINCHESTER.
Fellows :—
Comely: John Gill.
Gudgeon: George Edward.
Harris: James.
Newton: Thomas Edwin.
Pickstock: John.
Stopher: Thomas.
Williams: Herbert Walter.
Professional Associate :—
Barton: Ernest Wilfred Edwards.

WINCHFIELD.
Fellow:—
Wetherall: Harry Lancaster.

HEREFORDSHIRE.

BROMYARD.
Fellow :—
Millyard: John William.

HEREFORD.
Fellows :—
Apperley: William Havard.
Brown: John Powles.
Godsell: George Herbert.
Haywood: Henry.
Haywood: William Matthews.
Parker: John.
Professional Associate :—
Hewitt: William.

LEDBURY.
Fellow :—
Madge: John.

HERTFORDSHIRE.

BARKWAY.
Fellow :—
Adams: Charles Frederic.
Professional Associate :—
Balding: Albert.

CHESHUNT.
Fellows :—
Crawter: John.
Crawter: John, Jun.
Debenham: Frank Gissing.

HEMEL HEMPSTEAD.
Fellow :—
Robinson: Nathaniel Wishart.

HERTFORD.
Fellows :—
Austin: Russell Gardiner.
Norris: Walter Henry.
Waddington: John Allen.

HITCHIN.
Fellow :—
Shilcock: James.

MUCH HADHAM.
Associate :—
Gayton: Charles.

NEW BARNET
Fellows :—
Hasluck: Lancelot Gerald.
Taylor: Edward Fergusson.

REDBOURN.
Fellow :—
Burnett: George John Mulcaster.
Professional Associate :—
Martin: Thomas.

HERTFORDSHIRE—*continued.*

ROYSTON.
Fellow :—
Thurnall: John Edward.

SAWBRIDGEWORTH.
Professional Associate :—
Crawley: William Jeeves.

ST. ALBANS.
Fellows :—
Harding: Sidney Longhurst.
Low: Robert John.
Rumball: Aubrey.
Woodman: Thomas Foster.

TRING.
Fellows :—
Brown: Frank John.
Foulkes: Septimus Giffard.
Professional Associate :—
Brown: Arthur Macdonald.

WARE.
Fellows :—
Duvall: John William.
Hunt: Thomas.

WATFORD.
Fellows :—
Ayres: Charles Pryor.
Pridmore: Albert Edward.
Weall: John.
Professional Associates :—
Brown: William Edward.
Sedgwick: Rupert William.
Associate :—
Thomas: Hubert.

HUNTINGDONSHIRE.

BRAMPTON.
Fellow :—
Bird: John.

CALDECOTE.
Fellow :—
Preedy: Frederic.

HUNTINGDON.
Fellows :—
Looker: John.
Purves: Peter.
Associate :—
Veasey: Thomas Frederick.

KIMBOLTON.
Professional Associate :—
Bower: Arthur Wentworth Chivers.

ST. NEOTS.
Fellow :—
Peppercorn: John Hutchinson.

KENT.

ASHFORD.
Fellows:—
Ballard: Edmund.
Burrowa: Alfred John.
Reid: Francis.
Waterman: James.
Professional Associate:—
Brown: Alexander.

AYLESFORD.
Professional Associate:—
Innes: Gilbert Plantagenet Mitchell.

BECKENHAM.
Professional Associate:—
Hooper: Cecil Henry.

BEXLEY.
Fellow:—
Lucas: William Edward.

BOUGHTON-MONCHELSEA.
Fellow:—
Smith: George.

BROMLEY
Fellows:—
Latter: Hugh Robinson.
Lepper: John Harrage.
Payne: Frederick.

CANTERBURY.
Fellows:—
Harvey: John James Sayer.
Jennings: William Joseph.
Slater: George.
Wacher: Thomas.

CHARTHAM.
Fellow:—
Finn: Arthur George.

COOLING.
Fellow:—
Wood: William.

DARTFORD.
Fellow:—
Dann: Henry.
Professional Associate:—
Prall: Herbert Edward.

DEAL.
Fellows:—
Honeyball: Fred Thomas.
Nethersole: William.

DOVER.
Fellows:—
Fry: George Frederick.
Hayward: Henry.
Phillips: Frederick Hamilton.
Walmisley: Arthur Thomas.
Professional Associate:—
Hayward: Frederick George.

FARNINGHAM.
Professional Associate:—
Hodsoll: William.

KENT—*continued.*

FAVERSHAM.
Fellows:—
Finn: George William.
Neame: Frederick, Jun.
Professional Associate:—
Finn: Herbert Archibald.

FOLKESTONE.
Fellow:—
Barton: Harry Howell.
Professional Associate:—
Temple: Frederick Wilson.

GRAVESEND.
Fellows:—
Cobham: Charles.
Cobham: George Radcliffe.
Professional Associates:—
Cobham: George William.
Hodsoll: William, Jun.

HIGHAM.
Fellows:—
Cobb: Robert Lake.
Cobb: Herbert Mansfield.

HYTHE.
Professional Associate:—
Wilks: Ernest Stringer.

IGHTHAM.
Associate:—
Luard: Major-Gen. Chas. Edw., R.E.

LITTLE MONGEHAM.
Fellow:—
Wilks: Richard.

LYDD.
Fellows:—
Finn: Adolphus.
Reeve: Kingsnorth.

MAIDSTONE.
Fellows:—
Day: William, Jun.
Seymour: Richard Arthur Hamilton.
Tootell: Charles.
Tootell: Joseph.
Waring: Herbert Fuller.
Waterman: Albert James.
Waterman: Richard.

PENSHURST.
Fellow:—
Kerl: William James.

PADDOCK WOOD.
Fellow:—
Tompsett: William Robert.

RAMSGATE.
Fellow:—
Hinds: Henry.
Professional Associate:—
Milnes: Robert, Jun.

ROCHESTER.
Fellows:—
Homan: Franklin George.
Kidwell: John.
Professional Associate:—
Homan: Hubert Franklin.

KENT—*continued.*

ROLVENDEN.
Fellow :—
Neve: Herbert.

SELLINGE.
Fellow :—
Hobbs: John.

SEVENOAKS.
Fellows :—
Cronk: Edwyn Evans.
Cronk: Frank.
Cronk: William Henry.
Mann, Jabez.
White, John.
Professional Associate :—
Green: Thomas John.

SIDCUP.
Fellow :—
Snelling: Henry.
Professional Associate :—
Norris: Edward James.

SITTINGBOURNE.
Fellows :—
Jackson: William Tress.
Webb: George.
Professional Associate :—
Cowper: Richard William.

THONG.
Fellow :—
Cooke: Henry.

TUNBRIDGE.
Fellow :—
Tompsett: William Robert.
Professional Associate :—
Sturgess: John Moore.

TUNBRIDGE WELLS.
Fellows :—
Brackett: Arthur William.
Brackett: Frederick Henry.
Brackett: William.
Langridge: George.
Langridge: William.
Roper: William.

WINGHAM.
Fellow :—
Elgar: J. Edward.

LANCASHIRE.

ACCRINGTON.
Fellow :—
Bell: Albert William.

ASHTON-UNDER-LYNE.
Fellow :—
Holmes: James.
Professional Associate:—
Hodgkinson: James Henry.

BAMBER BRIDGE.
Professional Associate :—
Dixon: Francis Edward.

LANCASHIRE—*continued.*

BLACKBURN.
Fellows :—
Bertwistle James.
Gradwell: Arthur Richard.
Holt: George Henry.
McCall: George.
McCallum: James Braddon.
Robinson: George Edward.

BOLTON.
Fellow :—
Thompson: Francis William.

BOLTON-LE-MOORS.
Professional Associate :—
Collyer: Daniel William.

BURNLEY.
Professional Associate:—
Wilson: James Calvert.

BURY.
Fellows :—
Cartwright: Joshua.
Hopkinson: Alfred.
Nuttall: Thomas.
Professional Associate :—
Kay: Walter Robert.

CLAYTON-LE-MOORS.
Fellow :—
Fletcher: Thomas.

CLITHEROE.
Fellow :—
Parmetsr: Frank.

LANCASTER.
Fellows :—
Dawson: Edward Howard.
Roper: John Simpson.

LEIGH.
Professional Associate :—
Selby: John Basely.

LIVERPOOL.
Fellows :—
Beckwith: Henry Langton.
Hall: Charles Edward.
Kirby: Edmund.
Lancaster: Charles Holland.
Lain: Coard Squarey.
Price: John.
Thomas: Glegge.
Wainwright: Thomas Taylor.
Walker: Col. David.
Wrennall: William.
Young: Edward Herbert.
Young: Oswald William.
Associate :—
King: William.

LYTHAM.
Fellows :—
Fair: James Stretton.
Fair: Thomas.
Rea: John Marcus Beaumont.

LANCASHIRE—*continued.*

MANCHESTER.
Fellows:—
Bancroft: Henry.
Banks: Thomas.
Batey: Henry Simpson.
Bowden: John.
Bridgford: Ernest James.
Bridgford: Col. Robert, C.B.
Corbett: Christopher Geo. Bentham.
Cross: John,
Member of Council.
Cross: William Haslam.
Dorning: Arthur Harry.
Dorning: Elias.
Eagle: William.
Earle: Thomas Algernon.
Earnshaw: Jacob.
Eastham: James Cook.
Fairclough: William.
Fowler: Henry.
Hargraves: Stephen.
Holden: John.
Hurrell: John Weymouth.
Jackson: Charles.
Larmuth: George Horatio.
Maxwell: Francis William.
Maxwell: James.
Meller: William Galloway.
Murgatroyd: James.
Pierson: Charles.
Raby: Joseph Walker.
Radford: William.
Radford: William Harold.
Shelmerdine: Henry.
Taylor: Thomas Walters.
Watts: Samuel Lingard.
Watts: William John.
Wilson: Thomas Silk.
Wilson: William Henry.
Professional Associates:—
Bancroft: Frederick Herbert.
Blundell: Harry.
Bowden: Ernest Newton.
Bridgford: Leo Appleton.
Dawson: Walter Henry.
Wallis: John David.
Wilson: William Edward.
Associate:—
Higgin: William Housman, Q.C.

PATRICROFT.
Professional Associate:—
Ellis: Francis, Jun.

PRESTON.
Fellows:—
Addie: Peter.
Fair: Jacob Wilson.
Fair: James Stretton.
Harding: Joseph.
Myres: John James.
Nevett: Francis Walter.
Nevett: Thomas.
Park: Philip Samuel.
Park: William Philip.
Rea: John Marcus Beaumont.
Veevers: Richard.
Professional Associate:—
Johnston: Walter Henry.

ROCHDALE.
Fellow:—
Brocklebank: John.

LANCASHIRE—*continued.*

SCORTON.
Fellow:—
Bailey: Leonard.

SOUTHPORT.
Fellows:—
Barrow: Thomas Robert.
Wolfenden: Thomas.
Associate:—
Williams: Thomas D.

ST. HELEN'S.
Fellows:—
Booth: John Frederick.
Campbell: Henry Hunter.
Hanson: Amos.

TODMORDEN.
Fellow:—
Suthers: James.

WARRINGTON.
Fellows:—
MacIver: Colin.
White: John.

WIGAN.
Fellow:—
Fair: Jacob Wilson.

LEICESTERSHIRE.

ASHBY-DE-LA-ZOUCH.
Fellows:—
German: George.
German: Harry.
German: John.

BLABY.
Fellow:—
Hincks: Henry Thorp.

BLACKFORDBY.
Fellow:—
Joyce: John Hall.

HINCKLEY.
Fellows:—
Marson: Thomas.
Thorpe: William.

LEICESTER.
Fellows:—
Clare: Edward Lovell.
Clare: William Harcourt Lovell
Clough-Taylor: Horace George.
Draper: Arthur Thomas.
Everard: John Breedon.
Goddard: Joseph.
Goodacre: John.
Goodacre: Robert Johnson.
Hampton: Willie Thomas.
Marson: Thomas.
Miles: William Frederick.
Norman: Cecil Manners.
Rolleston: John Fowke Lancelot,
Member of Council.
Rolleston: Wm. Gustavus Stanhope.
Sebastian-Smith: Charles.
Wade: George Tempest.

LEICESTERSHIRE—*continued.*

LEICESTER.
Professional Associates:—
Beasley: John Arthur Llewellyn.
Davis: Neville Brookes.
Goddard: Alexander.

LOUGHBOROUGH.
Fellows:—
German: Harry.
Hodson: George.
Woolley: William Edward.
Professional Associate:—
Holbeche: Æmilian Henry.

LAUGHTON.
Fellow:—
Perkins: Joseph.

MARKET HARBOROUGH.
Fellows:—
Fisher: Charles Browning.
Fisher: Edward Knapp.
Holloway: Harry Hownam.
Professional Associate:—
Coales: Herbert George.

MOUNTSORREL.
Fellow:—
Martin: Robert Frewen.

NAILSTONE.
Fellow:—
Thorpe: John.

WOODHOUSE.
Fellows:—
Humphreys: Henry.
Humphreys: John Henry.

LINCOLNSHIRE.

ALFORD.
Fellow:—
Higgins: Frederic.

BOSTON.
Fellow:—
Hawley: Henry Michael.

BRIGG.
Fellows:—
Cave: Henry H.
Tindall: Charles William.

FULBECK.
Fellow:—
Crofts: Ewan Nevile.

GRANTHAM.
Fellows:—
Green: Valentine.
Manners: Henry Alfred.
Associate:—
Scott: The Hon. Henry Robert.

GRIMSBY.
Fellow:—
Birkett: William.

LINCOLNSHIRE—*continued.*

HOLBEACH.
Fellow:—
Abbott: William.

HORKSTOW.
Fellow:—
Turton: Edward James.

LINCOLN.
Fellow:—
Woolley: Reginald.

LOUTH.
Fellow:—
Mason: Charles.

METHERINGHAM.
Fellow:—
Gilpin-Brown: William Dundas.

SPALDING.
Fellow:—
Kingston: Samuel.

STAMFORD.
Fellows:—
Corby: Joseph Boothroyd.
Richardson: Charles.
Richardson: James.

TEALBY.
Fellow:—
Legard: Digby Charles.

ULCEBY.
Fellow:—
Turner: John.

WAINFLEET.
Fellows:—
Martin: Walter.
Walker: George Booth.

LONDON AND NEIGHBOURHOOD.

Fellows:—
Abbott: John Octavius.
Adams: Charles Frederick.
Adams: Henry.
Adkin: Benaiah Whitley.
Allen: Henry Robert.
Allport: William.
Andrews: John.
Ansell: Walter Raymond.
Arding: Charles Bennett.
Ault: Edwin.

Badcock: Philip.
Ball: William Alfred.
Ballantine: Edwin.
Barfield: Frederic Henry.
Barker: Horace Richard.
Barnes-Williams: Thomas.
Barratt: Frederick William.
Barry: Charles.
Barry: Dennett Heber.
Bate: Thomas.
Batstone: Rowland Robert.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Battam: Frederick Thomas.
Batterbury: Thomas.
Batting: Walter.
Beale: Robert John.
Beauchamp: Charles Davie.
Bedells: Charles Herbert.
Bedells: Charles King.
Beeston: Frederick.
Beken: George.
Beken: Walter.
Bell: George Graham.
Beningfield: Henry.
Berridge: Robert.
Bickerton: George Arthur.
Bingham: Alfred John.
Bingham: Frederick Henry.
Bingham: Reuben.
Bird: James Binfield.
Bird: Walter.
Blackford: Arthur.
Blake: William John, Jun.
Blakemore: William Agutter.
Blashill: Thomas.
Blyton: George.
Bolam: Charles Godfrey.
Bolden: John Leonard.
Bond: Douglas Vale.
Bonny: James Rippoth.
Bontor: Frank Arthur.
Booker: Algernon Erskine.
Boulting: Frederick Edward.
Bovill: Alfred.
Bowdich: Henry.
Bowdich: John.
Boyd: John Jermyn.
Boyes: Henry Cowell.
Bradford: Walter.
Bray: Harry.
Breach: Benjamin I'Anson.
Brereton: Franc Sadleir.
Brereton: Thos. Bloomfield Sadleir.
Brewer: Frank John.
Briant: Robert.
Bridgewater: Bentley James.
Brinsley: George.
Brooking: Edwin William.
Brooks: Charles William.
Brown: Bradshaw.
Brown: Daniel Johnson.
Brown: George James.
Brown: William Blumfield.
Browne: Flint.
Buckland: Alfred Virgoe.
Buckland: Henry Duneau.
Bull: Alfred Edwin.
Bull: Walter.
Burchell: Sidney Herbert.
Burmester: John William Stanley.
Burnett: David.
Burroughes: Thomas Henry
Bushell: Henry.
Buzzard: Alfred Lindsey.

Cable: James M.
Cæsar: Charles Edward
Carew: John Theodore.
Carritt: Ernest.
Carpenter: Evan George.
Cartwright: Sir Henry Edward.
Castell: Charles Smith.
Castle: Henry James.
Castle: Sydney Charles Courtenay.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Castle: William Henry Baldwin.
Cates: Arthur.
Chadwick: Spencer.
Chancellor: Frederick.
Chapman: Henry James.
Charles: Richard Stafford.
Chattell: David James.
Chatterton: George.
Chesterton: Edward.
Chesterton: Sidney Rawlins.
Cheston: Chester.
Cheston: Horace.
Chew: Henry Victor.
Child: Fred.
Chinnock: Frederick George.
Christy: Archibald Ernest.
Clark: Samuel.
Clarke: George Ernest.
Clarke: Howard Chatfeild.
Clarke: Percy Henry.
Clarke: Stanley.
Clarke: Thomas Chatfeild,
Vice-President.
Clarkson: John.
Clarkson: William.
Clifton: William Edward.
Clutton: John,
Past-President.
Clutton: John Henry.
Clutton: Ralph.
Clutton: Robert George,
Member of Council.
Cobb: Herbert Mansfield.
Cobb: Robert Lake.
Coles: John Robert.
Collier: Richard James.
Collier: Walter Henry.
Collingham: John Cyril Lees.
Collins: Henry Hyman.
Colins: Marcus E.
Coltman: Walter John.
Colyer: Frederick.
Conder: Alfred.
Connop: Newell.
Cooper: George Warren.
Cooper: John Robert.
Cooper: John Thomas.
Corderoy: Athelstane.
Corderoy: George.
Coulson: William Lindsay.
Coverdale: Henry.
Cranfield: William Bathgate.
Crawter: John, Jun.
Crickmay: George Rackstrow.
Crockett: Edwin Arthur Brassey.
Cronk: Edwyn Evans.
Cronk: Frank.
Cross: William Stephens.
Crowys: Robert.
Currey: Henry.
Currey: Percivall.
Curtis: Charles Edward.
Curtis: Robert Leabon.
Curtis: Samuel Perkins.
Cuxson: George Austin Pryce.

Dale: John.
Dallas: Edwin Stuart.
Darch: John.
Dash: Roland Ashford.
Davies: George Humphreys.
Davies: Walter.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Davis: Charles James.
Davis: Frederick William.
Davis: James.
Daw: William Herbert.
Dawson: John George.
Dawson: Percy John.
Deacon: Thomas Mark.
Dearle: William Henry.
Debenham: Frank Gissing.
Dennison: John William.
Denton: John Bailey.
Dinwiddy: Thomas.
Doll: Charles Fitzroy.
Dollar: Peter.
Done: John James.
Dowden: Henry Joseph.
Downing: Frederick.
Downing: Henry Philip Burke.
Dowsett: Charles Finch.
Driver: Charles William.
Driver: Robert Collier,
Past-President.
Driver: Robert Manning.
Drury: Edward Dru.
Duncan: James Morison.
Dunch: Charles.
Dunlop: Alexander Milne,
Vice-President.
Dunn: William Henry.
Dyball: Harvey.
Dyball: Sextus.
Dyer: William John.

Eales: Frederick Ernest.
Edmeston: James.
Eiloart: Frederick Edward.
Eldridge: Herbert.
Elgood: Frank Minshull.
Elbs: Frederick.
Ellis: Henry.
Ellis: Herbert Moates.
Ellis: Ralph Staples.
Ellis: Richard Adam.
Ellis: Sir John Whittaker, Bart., M.P.
Ellis: William Alfred.
Elwell: William Henry.
Emmanuel: Barrow.
Evans: George.
Eve: William.

Farmer: Edmund.
Farnan: Henry Richard.
Farrar: Sidney Howard.
Farthing: Walter Thomas.
Field: James Frederick.
Fleetwood: George.
Flint: William Hurst.
Ford: Lawton Robert.
Foster: Charles Rolls.
Foster: Henry Edwin.
Fowler: Sydney.
Fox: Edwin, Jun.
Frampton: Alfred.
Francis: George Futvoye.
Francis: Leon Albert.
Franklin: Arthur.
Franklin: Thomas Frederick.
Freeman: Sydney.
Fuller: Ernest.
Fuller: George John.
Fuller: Harry.
Fuller: Herbert Henry.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Furber: Herbert.
Furber: William.

Gairdner: Edward James.
Gale: Arthur John
Gale: Ernest Sewell.
Galsworthy: Frederick Thomas,
Member of Council.
Gamble: Sidney Gompertz.
Gandy: James.
Gardiner: Edward James.
Gardiner: William James.
Garrard: Arthur,
Member of Council.
Garrood: Thomas William M.
Gate: Alfred Joseph.
Gibbon: William Jacomb.
Gilbert: William Henry Sainsbury.
Girdwood: James.
Glasier: George Henry Brougham.
Gleed: Richard Cummings.
Goddard: Joseph.
Goldsmith: William.
Goodchild: Josiah.
Goodwyn: Leonard William.
Gordon: Charles Grimston.
Gore: Spencer W.
Goulding: William Purdham.
Gouldsmith: George Waller.
Gover: Arthur Sutton.
Gover: John Richard.
Grant: Harry Græme.
Graves: Walter.
Green: James.
Green: Samuel.
Green: Thomas Joseph.
Green: Thomas Thornton.
Grellier, Harley Mair.
Griffin: Harold.
Griffiths: Harold.
Griggs: Robert.
Grogan: Hedworth Herbert.
Grose: Vincent John.
Gruning: Edward Augustus.
Gwyther: William Warlow.

Hackford: George.
Haddock: Roland.
Hale: Raymond Henry.
Hall: John George.
Hall: Walter.
Hallett: William Brown.
Hamilton: Henry.
Hamilton: John.
Hancock: William St. John Hü.
Hansell: Reginald Goddard.
Hardcastle: Fredk. Henry Appleton.
Harding: Edward Ernest.
Harland: Marchant James.
Harrington: George Frederick.
Harrison: Richard Creese.
Harston: Arthur.
Hart: William Frederick.
Harvey: Frederick Henry.
Haskins: William Albion.
Haywood: William, Lieut.-Colonel.
Head: John George.
Heath: Henry.
Heelis: William.
Henderson: Henry Arthur.
Heron: William Charles.
Herring: William Arthur Warwick.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Hickson: Stephen Westbey.
Higgins: George.
Hill: Samuel.
Hilton: John.
Hine: George Ernest.
Hine: George Thomas.
Hobson: Frederick William.
Hodge: Leonard Percival.
Hodson: George.
Hodson: William.
Holcombe: Walter.
Holdsworth: Frederick Henry.
Holland: Thomas James, Jun.
Hollingsworth: Arthur Augustus.
Holman: George Edward.
Holmes: Montagu.
Hood: Hon. Victor Albert Nelson.
Hope: William Elliott.
Hopkins: Alfred James.
Horne: Edmund.
Horne: William Edgar.
Horsey: Frederick.
Horsey: Frederick John Terry.
Houghton: Frederick.
Houghton: John Pounds.
Houghton: William.
Hovenden: Henry Edward.
Howard: Alfred.
Hudson: Arthur Byrne.
Hudson: Edward William.
Hudson: William.
Hugman: Charles Eady.
Hull: Charles.
Humphreys: Charles.
Hunt: Frederick Cope.
Hunt: Frederick William H.
Hunt: Henry Arthur.
Hunt: Josiah.
Hunter: Cecil.
Hunter: William Havard.
Huxley: Walter Freeman.

I'Anson: Edward Blakeway.
Ingram: Henry Law.
Inman: Marshall Nisbet.
Inman: William Nutter.

Jenkinson: William Wilberforce.
Johnson: Henry.
Jonas: Henry.
Jones: Charles.
Jones: Charles Frederick.
Jones: Frederick Herbert.
Jones: Henry Arthur.
Jones: Thomas.
Jopling: Joseph.
Joseph: Delissa.

Kedgley: Charles.
Keirle: Robert.
Kennedy: James.
Kerl: William James.
Kersey: Alexander Henry.
King: Alfred.
Koch: John Godfrey.

Lacey: John Turk.
Lambert: Godfrey Charles.
Lambert: William.
Lang: Charles Augustus.
Lansdown: George.
Laurance: Walter.
Lawrence: William Robert.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Leane: George Henry.
Leaning: John.
Lee: Charles Williams.
Lee: Frederick.
Lee: Philip Shirling.
Lee: Sydney Williams.
Leonard: Henry Holmes.
Le Rossignol: Francis.
Letts: Thomas Hollins.
Lightfoot: Francis Lowry.
Lines: Richard Samuel.
Littlewood: Lionel.
Lockyer: Gilbert Edward.
Lofts: Henry.
Lofts: Henry Fairlam.
Lovegrove: Henry.
Lovejoy: Alfred.
Low: Robert John.
Lowe: Charles Harlowe.

MacCallum: Alexander Duncan.
Mckie: Hugh Unsworth.
Mallett: William Robert.
Mann: Charles John.
Mann: James Bagshaw.
Mann: Robert Wilks.
Marks: Hyman.
Marr: James.
Marriott: George Wharton.
Martin: George Dennis.
Martin: Howard.
Masterman: George Hughes.
Mathews: Joseph Douglas.
Matthews: William.
Maude: Raymond William.
Maylard: Charles Grason.
Meade: Thomas de Courcy.
Mellor: Thomas Henry.
Middleton: Reginald Empson.
Migotti: Alphonzo.
Millard: Edward.
Millar: Charles William.
Mixer: Edward.
Monckton: Henry Percival.
Monier-Williams: Stanley Faithful.
Montagu: Henry Havelock.
Moody: Thomas.
Moore: Alfred.
Moore: Frederic.
Moore: Harold Edward.
Morris: George Field.
Morris: Harold George.
Muller: John Joseph.
Mullett: Frederick Augustus.
Mundy: Thomas Edward.
Murray: William.

Neale: George James.
New: Edward Vorley.
Newman: Arthur Harrison.
Newman: Charles Henry.
Newman: George.
Newmarch: Henry Charles.
Newson: Harry Carss.
Nichols: Daniel Cubitt.
Nicholson: Anselm.
Nicholson: William Abernethy.
Norman: James Maurice.
Norman: William Horace.
North: George.
Northcroft: Henry.
Notley: Richard Albert.
Notley: Robert Pledge.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Oakley: Christopher,
Member of Council.
Oborne: Alfred William.
Orgill: John Berwick.
Orr: Cecil.

Page: Robert.
Pain: Coard Squarey.
Pain: William.
Paine: Edward Jabez.
Parker: Charles Alfred.
Parker: Stanley.
Parnacott: Alfred.
Parr: Samuel.
Parr: Samuel George.
Parry: Richard.
Pattisson: Jacob Luard, C.B.
Paull: Alan.
Paxton: Edward Hayton.
Payne: Alexander.
Peck: Henry William.
Peck: William Roland.
Penfold: John Wornham,
Honorary Secretary.
Perriam: Alfred Joseph.
Pother: Harry.
Pilditch: Philip Edward.
Pinks: Edwin Charles.
Pollard: Harry Emans.
Popplewell: William Willott.
Poston: Henry.
Powell: Frederick Atkinson.
Pownall: George Harry.
Price: Thomas William.
Pridmore: Albert Edward.
Pridmore: Arthur Stirling.
Protheroe: William Henry.
Purchase: Edward Keynes.
Purves: Peter.

Quick: Frederic William.

Ranson: Thomas Robert.
Rawlins: Henry Adair.
Rawlins: William.
Read: George Huntly.
Reddall: David Gadsden.
Rees: William Andrew.
Reid: Patrick Sandeman.
Rex: Charles Wilham.
Rex: Francis Herbert.
Rex: William.
Richards: Alfred.
Richards: Henry.
Richards: Henry Brinley.
Richards: Thomas Robert.
Richards: William.
Richardson: Oliver Archer.
Richmond: Walter Coleridge.
Rickman: Thomas Miller,
Member of Council.
Riddle: Frederick Henry Brimble.
Roberts: Charles Quincey.
Roberts: Henry Croydon.
Roberts: Richard.
Robins: Edward.
Robins: Edward Cookworthy.
Robinson: Charles Edward.
Robinson: Henry.
Robson: Edward Robert.
Rogers: William Bennett.
Roods: Alfred.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Rooke: Alfred Bradley.
Ruault: John Gustave Peter.
Rudkin: Arthur John.
Rumble: Harry Humphrey.
Rüntz: Ernest Augustus.
Russell: Murray Lawrence.
Rushworth: Edmund Walter.
Rutley: Charles.
Rutley: Frank.
Ryan: William Patrick.
Ryde: Arthur Lyon.
Ryde: Charles Bertram.
Ryde: Edward,
Past-President.

St. Quintin: Perry.
St. Quintin: Richard Samuel.
Sanday: George Henry.
Sargeant: John.
Saunders: Cecil George.
Saunders: Edward.
Saunders: Martin Luther.
Saunders: Rutland.
Savill: Alfred.
Savill: Alfred, Jun.
Selby: Charles Frederic.
Seth-Smith: William Howard.
Shackle: Edward Neild.
Sheppard: Ernest.
Sherrin: John Lester.
Sherwin: Joseph Henry.
Shilcock: James.
Shone: Isaac.
Shoppee: Charles Herbert.
Shoppee: Charles John,
President.
Simms: Walter.
Siogle: Arthur.
Skitt: Arthur.
Slade: James Benjamin.
Smallpeice: George Baker.
Smith: Charles John.
Smith: Edward.
Smith: Frank Adams.
Smith: Frederick Robert.
Smith: Henry.
Smith: Henry Herbert.
Smith: John Moore.
Smith: Percy Pyne Caldecott.
Smith: Sidney Robert James.
Snelling: Henry.
Spink: Thomas.
Squarey: Elias Pitts,
Past-President.
Squarey: Newell William Pitts.
Squire: Richard.
Stanger: Caleb.
Stanger: Samuel Arthur.
Stanham: George Gordon.
Stedman: Charles Mason.
Stenning: Alexander Rose.
Stephenson: Charles William.
Stevens: Charles Vivian.
Stevens: John William.
Stevens: William Charles.
Stevenson: Edmund Herbert.
Steward: Herbert Thomas.
Member of Council.
Stock: Henry.
Stokes: Frederick Vincent.
Stoner: Alfred.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows :—

Street: William Charles.
Strudwick: Hayward James.
Strudwick: William Henry.
Strutt, Hon. Edward Gerald.
Swain: Ernest.
Swain: Frank.

Tabberer: Benjamin.
Tanner: Henry.
Tapp: Arthur.
Tasker: Henry Hugh.
Tatham: George Henry.
Taylor: Arthur William.
Taylor: Edward Fergusson.
Taylor: John Herbert
Taylor: Richard Frederick.
Tewson: Edward.
Tewson: Edward Arthur.
Theobald: Henry.
Theobald: Henry Wells Dewhurst.
Thomas: John Henry.
Thompson: Arthur Edward.
Thompson: George William.
Thurgood: Herbert John.
Thurgood: William Henry.
Thynne: Edward Lewis.
Thynne: Frederick George.
Thynne: Guy Harry.
Tidman: Edward.
Tolley: James.
Tootell: Richard William.
Trafford: Frederick Charles.
Treadwell: Henry John.
Trist: John William.
Trollope: Charles Brown.
Trollope: Henry Charles.
Trumper: John Alfred.
Trumper: Richard.
Tubbs: Walter Burnell.
Tuckett: Philip Debell.
Turner: Alexander Henry.
Turner: Thomas Neve.
Tunley: George.
Tyser: Richard.

Vaizey: John George.
Venables: Frederick.
Vernon: Arthur,
Member of Council.
Vigers: Astley.
Vigers: Edward.
Vigers: Francis,
Vice-President.
Vigers: Leslie Robert.
Vigers: Martin.
Vigers: Robert,
Member of Council.

Wadling: Henry John.
Wadmore: Beauchamp.
Wagstaffe: Thomas Rogers.
Walcott: Lyons Roden Sympson.
Walker: Robert.
Walker: Samuel.
Wallace: George.
Walmisley: Arthur Thomas.
Ward: George.
Warner: Alfred Ernest.
Warner: William Henry.
Waters: William Richard.
Watney: Daniel,
Vice-President.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows :—

Watney: Dendy.
Watney: Walter Daniel.
Watson: Alfred.
Watts: Charles.
Weatherall: Henry.
Weaver: William.
Webb: William.
Wharton: Thomas George.
Whitaker: George.
White: William Henry.
Whiteley: Charles Percy.
Widnell: Frederick Grainger.
Wilkinson: George Ayscough.
Wilkinson: George Herbert.
Wilkinson: William.
Williams: Leonard James.
Wilson: Sir Jacob.
Wilson: Stephen Barton.
Wilson: William Henry.
Withall: Latham Augustus.
Withall: Richard Augustus.
Wood: Charles Bruce.
Wood: Henry.
Wood: John Daniel.
Woodbridge: Stephen, Jun.
Woods: Henry.
Woods: Thomas.
Woodthorpe: Edmund.
Woodward: William.
Wreathall: Robert T.
Wright: George Thomas Green.
Wrightson: Arthur Frederick.

York: Henry.
Young: Andrews.
Young: Douglas.
Young: Morgan Henry.
Young: Thomas.

Professional Associates :—

Abrams: Benjamin Percy.
Anscombe: Ernest.
Assiter: Harry G.
Aylen: Cecil Hugh.

Baker: Cecil Cautley.
Ball: James Benjamin.
Ballard: William Washington.
Beadel: Henry Grant.
Beadel: Maurice Frederick.
Bousfield: Edwin Vaughan Davenport.
Briggs: John.
Brown: Alexander Burnett.
Brown: William Arthur.
Buckland: William Thomas.
Bulbeck: George.
Buss: Fleetwood George William.

Cardall: Frederic William.
Carter: Alfred Presley.
Chalcraft: Henry Terrell.
Chapman: Vaughan Godfrey St. John.
Chester: William Richard.
Child: Edmund Herbert.
Clayden: Walter.
Collier: Arthur Charles.
Cooke: William George.
Cope: Henry James.
Cresswell: John Theodore Ross.
Crier: John Thomas.
Cross: Arnold Charles Martin.

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates:—

Cross: John.
Crouch: James Leonard.
Cudlipp: William.
Cumberbatch: Carlton Parry.

Daffarn: Thomas Alfred.
Dansie: Frederick Crown.
Debenham: Horace Bentley.
Dendy: William Cooper.
Drew: Allen.
Dunning: Bernard Simon.

Easton: Edward.
Ellis: Charles Godwin.
Evans: Tom Augustus John.
Eves: William Lionel.

Few: Harry Garrard.
Fitness: John Francis.
Fletcher: George Rivers.
Foster: Frank.
Furber: Henry Aubrey.

Galsworthy: Vincent Somers.
Garrard: Arthur Norman.
Giddy: Osman Horton.
Gore: William Joll.
Gow: James.
Grant: Joseph.
Green: Alexander Ernest.
Green: Edmund Horace.
Grant: Harry Græme.
Green: James Henry Townsend.
Greenop: Edward.
Grimes: Ralph Fearon.
Grover: Arthur.

Hamilton: John Paynter.
Hampton: George Frederick William.
Harding: Frederick Allcroft.
Harper: Edgar Josiah.
Hebden: George Radcliffe.
Hedger: Arthur Constantine.
Henry: Edward Hugh.
Hicks: Stanley.
Holmes: James Thomas.
Hopkins: Edwin.
Howell: Ernest John.

Jessett: Charles.
Jessett: Charles Edward Vernon.
Johnston: Andrew.
Jonas: Samuel Marshall.
Jordan: George Henry.
Jull: William Vincent.

Keeling: Gilbert.
Keer: William.
King: William Isaac.

Lansdown: George Arthur.
Larkin: Richard Webster.
Leaning: Henry John.
Lee: John Wilfrid.
Leverton: Frank John Waldemar.
Lewis: Arthur Llewelyn.
Lightfoot: John George.
Lovesay: William.
Lowe: Charles Robert.
Lucas: Joseph.
Lumley: Julian Arthur.
Lynch: James Henry.

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates:—

Mann: Robert Bagshaw.
Mason: Charles William Hayley.
Mead: John Henry.
Melrose: Frank.
Merrett: James.
Molyneux: Herbert Ernest.
Moses: Henry.
Moss: Thomas Walter.
Mould: Graham Harley.

Oakley: Christopher Percival.
Oakley: John Hubert.
Ogden: Michael Guy.

Page: Thomas Gowland.
Pearce: Frederick William.
Pearce: William John.
Perks: Sydney.
Pewtress: Herbert Wilmshurst.
Phillips: John Henry.
Physick Walter Frederick.
Pinder: Richmond.
Potter: Herbert George.

Roberts: Charles Gordon.
Robinson: Alfred Whitmore.
Robinson: Henry Herbert.
Robinson: James Thomas.
Ross: David James.
Ruddle: Frank J.

Sabin: Joseph Henry,
Professional Associate of Council.
Sadler: George William, Jun.
Satchell: Herbert Arnold.
Saunders: Samuel Brown.
Savill: Edwin.
Saunders: Charles Herbert.
Selby: Frank.
Sexby: John James.
Sherry: Nathaniel.
Skewis: Edwin.
Skingle: Alfred.
Slade: Isaac.
Slater: Charles Frederick.
Smith: George Cecil.
Smith: James.
Smyth: Edward,
Professional Associate of Council.
Stacey: William.
Stainton: Francis Charles.
Stenning: Percy Haines.
Stevenson: Frederick J.
Stower: Joseph.
Sturgess: John Moore.
Sturley: Arthur Dyson.
Summerfield: Joseph Chas.
Swinscow: Harold Edwin.

Taylor: George.
Thompson: Alfred.
Thurgood: Ernest Charles.
Townsend: George James.
Tuckett: Percival Fox.
Tyler: James William.

Verity: Ernest George.

Wain: George Sparrow.
Walker: Leon Victor.
Warton: Wilfred.
Watson: George.

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates :—

Webster: Hugh Calthrop.
Wells: Edward Ogbourn.
Weston: George.
Wilcocks: Frederick C.
Williams: Tom.
Willoughby: Charles William.
Worthington: James Scott.

Associates :—

Bankes: John Eldon.
Barnes: George Frederick.
Barry: John Wolfe.
Associate of Council.
Batten: John Winterbotham.
Beale: James Samuel.
Bidder: George Parker, Q.C.
Birch: Robert William Peregrine.
Boulger: George Edward Simonds.
Bramwell: Sir Fredk. Joseph, F.R.S.
Bund: John W. Willis.

Cadell: George.
Castle: Edward James, Q.C.
Clarke: Sir Edward, Q.C., M.P.
Clarke: Ernest.
Clode: Walter.
Clutton: Hubert Spencer.
Cripps: Charles Alfred, Q.C.

Dethridge: Frank.
Druce: Samuel Benjamin Large.

Fowler: Sir John.
Freeman: George Mallows.
Freshfield Edwin.
Freshfield: William Dawes.

Goldney: Gabriel Prior.
Grantham: Richard Fuge.
Grover: John William.
Groves: William.
Gully: William Court, Q.C., M.P.

Hamilton: Henry Best Hans.
Hamond: Thomas Astley Horace.
Hudson: Alfred Arthur.

James: Sir Henry, Q.C., M.P.

Ledgard: Frederick Thos. Durell, Q.C.
Leworthy: John Henry.
Littler: Ralph Daniel Makinson, Q.C.

Marriott: The Right Hon. Sir William Thackeray, Q.C., M.P.
Marshall: Frederick.
Mence: Phillip Allan.
Meysey-Thompson: Albert Childers.
Moulton: John Fletcher, Q.C.
Munton: Francis Kerridge.

Payne: Edward John.
Philbrick: Frederick Adolphus, Q.C.
Pollard: Edward Hutchinson.
Pope: Samuel, Q.C.
Potter, William, Q.C.
Procter: Foster Wilfred.

Quick: Joseph.

LONDON AND NEIGHBOURHOOD—*continued.*

Associates :—

Rees: John Charles.
Rickards: Arthur George.
Rigg: Herbert Addington.
Ryde: Walter Cranley

Saunders: Herbert Clifford, Q.C.
Shoppee: Gerald Augustine.
Sladen: St. Barbe.
Smith: Lumley, Q.C.
Statham: William Arnold.
Stephens: Pembroke S., Q.C.
Stevens: William Richard.
Sutton: Henry.

Thomas: George James.

Walker: James Douglas, Q.C.
Ward: Reginald.
Warren: Reginald Augustus.
Webster: Sir Rchd. Everard, Q.C., M.P.
Associate of Council.
Wheeler: Thomas Whittenbury, Q.C.
White: Frederick Meadows, Q.C.
Will: John Shiress, Q.C., M.P.
Winckworth: Lewis.

MONMOUTHSHIRE.

DIXTON.
Fellow :—
Wanklyn: Phillip Endell.

MONMOUTH.
Fellow :—
Powell: Frederick Atkinson.

NEWPORT.
Fellows :—
Graham: William.
Hitchcox: William.
Rees: William George.
Tanner: William.

NORFOLK.

ATTLEBOROUGH.
Fellows :—
Bacon: Frank Mace.
Bacon: Horace.
Salter: William Herbert.

AYLSHAM.
Fellow :—
Farmar: Charles Lewis Atterbury.

CASTLE RISING.
Fellow :—
Beck: Arthur Clement.

COSTON.
Fellow :—
Atkins: Sydney George.

NORFOLK—*continued.*

DISS.
Fellow:—
Gaze: Thomas William.

DOWNHAM MARKET.
Fellow:—
Hawkins: Charles.

EAST DEREHAM.
Fellow:—
Ireland: Edwin Benjamin.

EAST RAYNHAM.
Fellow:—
Gayford: Henry John.

HOLKHAM.
Fellow:—
Davey: John George Ellis.

HORSTEAD.
Fellow:—
Falcon: Michael.

KIRBY-CANE.
Fellow:—
Upcher: Edward Berners.

KING'S LYNN.
Fellows:—
Wilkin: Horace Martin.
Wright: William Edward.

MERTON.
Fellow:—
Woodforde: Lionel Burnet.

NORWICH.
Fellows:—
Beck: Edward William.
Hornor: Charles Jared.
Hornor: Francis.
Mills: Samuel Mealing.
Morgan: Benjamin Brauford.
Rose: Thomas.
Scott: Augustus Frederic.
Scriven: Charles Herbert.
Spelman: Clement Charles Rix.
Professional Associates:—
Forster: Walter Hill.
Spelman: William Wilton Rix.

SANDRINGHAM.
Fellows:—
Beck: Arthur Clement.
Beck: Frank Reginald.

THETFORD.
Fellow:—
Barker: Caleb.

WEST RUDHAM.
Fellow:—
Freuer: William.

NORTHAMPTONSHIRE

BRACKLEY.
Fellow:—
Russel: Robert John.

HORTON.
Fellow:—
Cave: Thomas Newman.

KETTERING.
Fellow:—
Bolam: Charles Godfrey.

NORTHAMPTON.
Fellows:—
Law: Edmund.
Merry: Thomas.
Scriven: Richard George.

OVERSTONE.
Fellow:—
Dickson: Thomas Arthur.

PETERBOROUGH.
Fellows:—
Edwardes: Charles Bidwell.
Laurance: John.
Lyster: Thomas Rice Somerville.

THRAPSTONE.
Fellow:—
Bletsoe: Henry Hopkinson.
Professional Associate:—
Wright: Thomas Hawkins.

WELLINGBOROUGH.
Fellow:—
Cutlan: John Ellis.

NORTHUMBERLAND.

ALNWICK.
Fellows:—
Tomlinson: Thomas.
Wheler: Edward Galton.
Wilson: Sir Jacob.

BOTHAL.
Fellows:—
Sample: Thomas.
Sample: William Collings.

GOSFORTH.
Fellow:—
Aynsley: Robert John.

MATFEN.
Fellow:—
Sample: Charles Herbert.

NEWCASTLE-UPON-TYNE.
Fellows:—
Armstrong: Thomas John.
Bolam: William Thomas.
Forsyth: Thomas Hills.
Nicholson: Thomas Cooke.
Taylor: John William.

WYLAM.
Fellow:—
James: Christian Hugh.

NOTTINGHAMSHIRE.

BABWORTH.
Fellow :—
Parkin: William.

BAWTRY.
Fellow :—
Baines: Matthew Talbot.

BEESTON.
Fellow:—
Bowley: John Cross.

CLIFTON.
Fellow :—
Haynes: Henry.

EAST BRIDGFORD.
Fellows :—
Beaumont: Charles.
Beaumont: George.

EPPERSTONE.
Fellow :—
Huskinson: William Lambe.
Professional Associate :—
Huskinson: Thomas William.

MANSFIELD.
Fellows :—
Neale Charles James.
Turner: Frederick John.
Vallance: Robert Frank.
Professional Associate :—
Futterworth: Josiah.

NEWARK-UPON-TRENT.
Fellow :—
Bailey: William Smith.

NOTTINGHAM.
Fellows :—
Barnes: John William James.
Calvert: Arthur Richard.
Evans: Robert.
Hine: George Thomas.
Jackson: Frederick.
Jackson: Frederick William.
Walker: Herbert.
Walker: Joseph.
Professional Associate :—
Payne: William Percy.

NUTTALL.
Fellow :—
Taylor: Samuel.

OLLERTON.
Fellows :—
Bell: Joseph Askew.
Wordsworth: Robert Walter.

OSBERTON.
Fellow :—
Lister-Kaye: Charles Wilkinson.

RADCLIFFE-ON-TRENT.
Fellow :—
Morris: Charles.

NOTTINGHAMSHIRE—*continued.*

RETFORD.
Fellow :—
Walker: Joshua.

SOUTH COLLINGHAM.
Fellows :—
Wigram: John.
Woolley: Reginald.
Woolley: Thomas Cecil Smith.

WOLLATON.
Fellows :—
Wright: Charles William.
Wright: William.

WORKSOP.
Fellow :—
Turner: Thomas Warner.

OXFORDSHIRE.

BANBURY.
Fellows :—
North: George Frederic.
Russel: Robert John.

BICESTER.
Fellows :—
Castle: George Richard.
Holiday: Frederick Dean.
Little: William Davis.

HENLEY-ON-THAMES.
Fellows :—
Beever: William Frederick Holt.
Simmons: Charles.
Simmons: Charles Franklin.
Simmons: William Anker.

KIDLINGTON.
Fellow :—
Scroggs: William.

KIRTLINGTON.
Professional Associate :—
Dashwood: Frederick Loftus.

OXFORD.
Fellows :—
Castle: Arthur.
Castle: Robert.
Egerton: Hubert Decimus.
Field: Francis Hayward.
Galpin: Charles Alexander.
Professional Associates :—
Castle: Harold.
Rose: Edward Joseph.

TETSWORTH.
Fellow :—
Watson: John.
Professional Associate :—
Watson: James Bruce.

WITNEY.
Fellow :—
Habgood: Henry Charles.
Professional Associate :—
Bateman: Arthur Charles.

RUTLANDSHIRE.

EXTON.
Fellow :—
Formby: Geoffrey Oswald.

OAKHAM.
Fellows :—
Royce: David Needham.
Royce: John.

SHROPSHIRE.

ASTON-ON-CLUN.
Fellows :—
Ward: Felix John.
Wooler: Walter Hernaman.

BROSELY.
Fellow :—
Thursfield: Thomas Howells.

BRIDGNORTH.
Fellows :—
De Wend: William Fenton.
Southwell: Charles Josiah.
Wyley: Henry James.

CHIRBURY.
Fellow :—
Morris: Edward Henry.

CLEOBURY NORTH.
Fellow :—
Dodgson: Wilfred Longley.

CORRA.
Professional Associate
Palamountain: Joseph William.

ELLESMERE.
Fellow :—
Tower: Brownlow Richd. Christopher.

HINSTOCK.
Fellow :—
Loring: John.

KNOCKIN.
Fellow :—
Griffiths: Edward, Jun.

LEATON.
Fellow :—
Hickman: Thomas.

LUDLOW.
Fellows :—
Dodgson: Wilfred Longley.
Fenn: Thomas.

LYDBURY NORTH.
Fellow :—
Newill: Robert Henry.

MUCH WENLOCK.
Fellow :—
Selby-Bigge, Charles P. O.

SHROPSHIRE—*continued.*

OSWESTRY.
Fellow :—
Lawford: William Robinson.

SHIFNAL.
Fellow :—
Lane: Cecil Newton.

SHREWSBURY.
Fellows :—
Bather, John T.
Burd: Laurence.
Burd: Timotheus Henry.
Davis: Alfred Thomas.
Evans: William Ernest.
Hall: William Timothy.
Owen: Henry.
Swettenham: William Norman.
Wyley: William John
Professional Associates :—
Armytage: Francis Reginald.
Salt: Reginald Nowell.

UPPINGTON.
Fellow :—
Ashdown: Augustus Harding.

SOMERSETSHIRE

BATH.
Fellows :—
Farwell: Frederick George.
Silcock: Thomas Ball.
Spackman: Charles Chantry.
Spackman: Henry.

BRUTON.
Fellow :—
Bennett: Thomas Oatley.
Professional Associate :—
Cheney: Edwin John.

CLEVEDON.
Fellow :—
Cruse: Edmund.

HUTTON.
Fellow :—
Edwards: Arthur Phippen.

KEYNSHAM.
Fellow :—
Daniel: Harry Augustus Hood.

LONG ASHTON.
Professional Associate :—
Walker: Joseph Arthur.

MISTERTON.
Fellows :—
Combes: Cyrus.
Parsons: Frank Donisthorpe.
Parsons: Henry.
Parsons: Robert Maurice Peters.

SOMERSETSHIRE—*continued.*

NORTH CURRY.
Fellow :—
Peard : John Grigg.

NYNEHEAD.
Fellow :—
Bailey : Stephen.

SHEPTON MALLET.
Fellows :—
Heard : Herbert.
Wainwright : Charles Rawlinson.
Wainwright : Charles Rawlinson, Jun.

SOUTH PETHERTON.
Fellow :—
Hebditch : William Benjamin.

TAUNTON.
Fellows :—
Hussey : Frank Tooze.
Knollys : James Edward.

WELLS.
Fellows :—
Hippisley : Edwin.
Hippisley : Edwin Maggs.
Hippisley : William John.

WESTON-SUPER-MARE.
Fellow :—
Mylne : William John Home.

WILLITON.
Fellow :—
Andrew : Thomas Hawkes.

STAFFORDSHIRE.

BRERETON.
Fellow :—
Hussey : Robert.

BROMWICH (WEST).
Fellow :—
Eayrs : John Thomas.

BURTON-ON-TRENT.
Fellow :—
Winterton : Wm. Moxon.

ENDON.
Fellow :—
Heaton : George Herbert.

KEELE.
Fellow :—
Boothby : Henry Vernon.

LICHFIELD.
Fellows :—
Inge : Charles Henry.
Winterton : Harry John Campion.

STAFFORDSHIRE—*continued.*

LITTLE INGESTRE.
Fellow :—
Mynors : Walter Charles Towers.

MARCHINGTON.
Fellow :—
Hardy : Richard Thomas Ash.

PENKRIDGE.
Fellow :—
Foden : Edward Antrobus.

STAFFORD.
Fellows :—
Sandy : Henry.
Turnor : Exsuperius Weston.
Professional Associate :—
Joyce : Harry Ward.

STOKE-UPON-TRENT.
Fellows :—
Forshaw : Edward.
Lynam : Charles.

TAMWORTH.
Fellow :—
Arnold : William.
Professional Associate :—
Bidwell : Shelford.

WOLVERHAMPTON.
Fellow :—
Duncalfe : Henry George.
Professional Associate :—
Vale : Henry.

SUFFOLK.

BECCLES.
Fellow :—
Pells : Arthur.

BURY ST. EDMUNDS.
Fellows :—
Blencowe : George.
Scott : Henry Lacy.

EYE.
Fellow :—
Garrard : Norton Burroughs.

HAVERHILL.
Professional Associate :—
Rand : John.

HORSECROFT.
Fellow :—
Simpson : Robert Thomas.

IPSWICH.
Fellow :—
Spurling : Henry.
Professional Associates :—
Bond : Frederick George.
Hebblethwaite : Charles Henry.
Turner : Percy.

SUFFOLK—*continued.*

LIVERMORE.
Fellow :—
Fergusson : James.

LOWESTOFT.
Fellow :—
Pells : Arthur.

NEWMARKET.
Fellow :—
Boa : Andrew.

SOMERLEYTON.
Fellow :—
Rix : George Kerry.

SUDBURY.
Fellow :—
Coote : George.

WOODBRIDGE.
Professional Associate :—
Arnott : John.

SURREY.

BYFLEET.
Fellow :—
Dash : Thomas Alexis.

CHERTSEY.
Professional Associate :—
Waterer : Clarence.

CLAYGATE.
Fellow :—
Bailey : Henry David Chinery.

COBHAM.
Associate :—
Seth-Smith : Archibald.

DORKING.
Fellows :—
White : Charles Alexander.
White : James Alexander.

ENGLEFIELD GREEN.
Fellows :—
Bond : Erasmus.
Menzies : William.
Simmonds : Frederick.

FARNHAM.
Fellows :—
Eggar : James Alfred.
Nash : Alfred James.
Professional Associate :—
Williams : William Welsby.

GODALMING.
Fellow :—
Mellersh : Alfred William.

SURREY—*continued.*

GUILDFORD.
Fellows :—
Drewitt : George.
Ellis : Ernest Harold.
Lee : William.
Messenger : William Harry.
Smallpiece : George Baker.

HORLEY.
Professional Associate :—
Osenton : George, Jun.

KENLEY.
Professional Associate :—
Dudley : Edgar.

KINGSTON-ON-THAMES.
Fellows :—
Bailey : Harry David Chinery.
Dawson : John George.
Horsfield : J. Nixon.
Page : George Frederick.
Phillips : William Edwin.

LEATHERHEAD.
Fellow :—
Noel : Byron Bruce.

MAYBURY.
Professional Associate :—
Rigden : Charles Furner.

MITCHAM.
Fellow :
Chart : Robert Masters.

MOLESEY (EAST).
Fellow :—
Moore : Algernon.

REDHILL.
Fellow :—
Stacey : Harrie.

REIGATE.
Fellows :—
Burchell : Sidney Herbert.
Clutton : Henry.
Clutton : Ralph William.
Lees : John.
Pym : George Edwin.
Professional Associates :—
Bellingham : Archibald Turner.
Blunt : Herbert Arthur Scawen.
Garrod : Herbert James.
Thornton : William Henry.
Associate :—
Head : John Merrick.

RICHMOND.
Fellows :—
Chancellor : Albert.
Maynard : Edward.
Professional Associates :—
Parris : Charles John.
Partridge : Edward John.

SURREY—*continued.*

WALTON-ON-THAMES.
Fellow :—
Dash: Roland Ashford.

WEST HORSLEY.
Professional Associate :—
Young: Harry Austin Lindsay.

WEYBRIDGE.
Fellow :—
Synge: Edward Millington.

SUSSEX.

BRIGHTON.
Fellows :—
Parsons: Frederick Cecil.
Welch: Frederick William.
Wilkinson: Thomas.
Wood: Frederick.
Professional Associates :—
Udny: Augustus Charles.
Wain: George Sparrow.
Associate :—
Wing: Thomas Twining.

CHICHESTER.
Fellows :—
Hobgen: Francis Neale.
Hobgen: Thomas Cecil.
Wyatt: Oliver Newman.

CRAWLEY.
Fellow :—
Wood: William.
Professional Associate :—
Taylor: George.

EASTBOURNE.
Professional Associate :—
Woolnough: John William.

EAST GRINSTEAD.
Fellow :—
Turner: Charles.

FIRLE.
Professional Associate :—
Scarlett: Harry.

HAILSHAM.
Fellow :—
Burtenshaw: Albert.

HASTINGS.
Fellows :—
Dray: Alfred.
Vidler: James Coleman.
Welch: Frederick William.
Wilkinson: Thomas.
Woodhams: James.
Professional Associate :—
Davey: Henry Thomas.

SUSSEX—*continued.*

HAYWARD'S HEATH.
Fellow :—
Bannister: Thomas.

HORSHAM.
Fellows :—
Chasemore: Philip.
King: Frank Hulme.

HOVE.
Fellow :—
Hudson: Edward William.

LEWES.
Fellows :—
Card: Henry Curtis.
Ingram: Walter Fielde.
Morris: Herbert.
Powell: Hubert John.
Powell: Reginald Henry.
Professional Associate :—
Card: Henry.

LITTLEHAMPTON.
Fellow :—
Howard: Harry.

PETWORTH.
Fellows :—
Taylor: Matthew.
Watson: Herbert Edward.

PEVENSEY.
Fellow :—
Beard: Edwin Thomas.

RYE.
Fellows :—
Reeve: Kingsnorth.
Vidler: James Coleman.

ST. LEONARD'S.
Associate :—
Benthall: Edward John.

SEAFORD.
Fellow :—
Turner: William Webb.

SOUTHWATER.
Fellow :—
Smith: Sidney.

UCKFIELD.
Fellow :—
Colgate: Thomas.

WADHURST.
Fellow :—
Austen: Frank.

WORTHING.
Fellow :—
Moore: Frederic.

WARWICKSHIRE.

ALCESTER.
Fellow :—
Raikes: Col. George Whittington.

WARWICKSHIRE—*continued.*

BIRMINGHAM.
Fellows :—
Arnold : William.
Bettridge : Edward.
Clarke : Richard.
Couchman : Robert Edward.
Fowler : Gerard Edmund.
Fowler : Henry.
Fowler : Richard.
Fowler : William.
Gibson : Denston.
Godfrey : Robert.
Grimley : Edwin Fearn.
Grimley : Thomas.
Hedley : Robert Wilkin.
Hendriks : Henry.
Holbeche : Robert Neville.
Jenkins : Oswald.
Kenwrick : George.
Ludlow : Walter Robert.
Mason : William Arthur.
Mathews : George Spencer.
Mathews : William,
Member of Council.
Pemberton : Charles Oliver Paget.
Robins : William Henry.
Roderick : John.
Smith : Frank.
Williams : Edward.
Willmot : George Dyott.
Willmot : John.

FARNBOROUGH.
Professional Associate :—
Prater : Thomas Herbert.

KENILWORTH.
Fellow :—
Whittendale : James.

LEAMINGTON.
Fellow :—
Fayerman : George Metcalfe.

LEEK WOOTTEN.
Fellow :—
Donne : Henry.

MILVERTON.
Fellow :—
Smith : Frank William.

NUNEATON.
Fellow:—
Evans : Walter Pearson.

STRATFORD-ON-AVON.
Fellow :—
Deer[illegible] : Edward.

WARWICK.
Fellows :—
Couchman : Henry Boteler.
Fosbery : William Thomas Exham.
Margetts : John William.

WESTMORELAND.

KENDAL.
Fellows :—
Banks : John.
Hoggarth : Arthur.
Hoggarth : Edwin.
Webster : Alexander.

KIRKBY LONSDALE.
Fellow :—
Punchard : Frederick.

MILNTHORPE.
Fellow :—
Holme : John.

WILTSHIRE.

CHIPPENHAM.
Fellows :—
Holloway : Thomas.
Marshall : Lionel Hasler.
Napier : Henry Burroughes
Smith : Henry Herbert.
Watkins : Robert Arundel.
Professional Associate :—
Wood : Edward Bryan.

DEVIZES.
Fellow :—
Canning : William Browne.

DOWNTON.
Fellows :—
Squarey : Elias Pitts,
Past-President.
Squarey : Newell William Pitts.
Associates :—
Fream : William.
Wrightson : John.

MARLBOROUGH.
Fellow :—
Jeans : Mark.

OARE.
Professional Associate :—
Puckridge : Percival Martin.

PEWSEY.
Fellow:—
Ferris : George.

SALISBURY.
Fellows :—
Bath : Fred.
Canning : William Browne.
Gater : Caleb William.
Hannen : Reginald St. John.
Rawlence : Ernest Alfred.
Rawlence : James.
Rawlence : James Edward.
Rigden : Francis.
Rigden : Henry William.
Squarey : Elias Pitts,
Past-President.
Squarey : Newell William Pitts.
Waters : Edward.
Woolley : John Turton.

WILTSHIRE—*continued.*

SWINDON.
Fellows :—
Bishop: Charles.
Pritchett: Ellis Herbert.

TISBURY.
Fellows :—
Combes: Cyrus.
Lightfoot: Henry Le Blanc.
Parsons: Frank Donisthorpe.

TROWBRIDGE.
Fellows :—
Foley: John Howard.
Mundy: Herbert.
Professional Associate :—
Snailum: Walter Wadman.

WARMINSTER.
Fellow :—
Jones: Henry Parr.

WINCHESTER.
Fellow :—
Smith: George Alfred.

WOOTTON-BASSETT.
Fellow :—
Trepplin: Ernest C.

WORCESTERSHIRE.

BALSALL HEATH.
Professional Associate:—
Perkins: Joseph.

BARNT-GREEN.
Fellow :—
Tomson: James John.

BROMSGROVE.
Fellow :—
Sanders: Thomas.

EVESHAM.
Fellows :—
Righton: Edward Grantham.
Smith: William.

FRANCHE.
Professional Associate :—
Henderson: Harry Gilbert.

KIDDERMINSTER.
Fellow :—
Joseland: Charles.

MADRESFIELD.
Fellow :—
Stallard: William.

MOSELEY.
Fellow :—
Green: John.
Professional Associates :—
Barclay: Thomas.
Hadley: Frank.

WORCESTERSHIRE—*continued.*

STOURBRIDGE.
Fellows :—
Fiddian: William.
King: Henry.
Professional Associate :—
Barratt: Harry.

STOURPORT.
Fellow :—
Clarke: Alfred Dudley.

WORCESTER.
Fellows :—
Buck: Albert,
Member of Council.
Buck: Herbert Wilson.
Everill: Frank.
Parker: William Henry.

YORKSHIRE.

BALDERSBY.
Fellows :—
Gregson: William.
Peirson: George Brodrick.

BARNSLEY.
Fellow :—
Wade: John.
Professional Associate :—
Wade: Henry.

BEDALE.
Fellow :—
Clarke: Christopher.

BEVERLEY.
Fellow :—
Evans: William.

BINGLEY.
Fellow :—
Armistead: Richard.

BRADFORD.
Fellows :—
Clare: Edward Lovell.
Cowgill: Brian Bollans Hird.
France: Arthur Alderson.
France: Charles.
Gott: Charles.
Gott: Charles Henry.
Hindle: John.
Jackson: Samuel.
Milnes: Eli.
Smith: Frederic Ellison.
Smith: Harry Russell.
Smith: Joseph.
Smith: Wheater.
Woodhead: William Booth.

BRIGHOUSE.
Fellow :—
Armytage: George John.

BURLEY.
Fellow :—
Eagland: William Francis.

YORKSHIRE—*continued.*

CLAPHAM.
Fellow :—
Bateman: John.

DONCASTER.
Professional Associate :—
Peace: Alfred Lindley.

EBBERSTON.
Fellow :—
Bradley: William Edward.

GOOLE.
Fellow :—
Hobson: Harry.
Professional Associate :—
Tudor: Edward Charles Buchanan.

GUISBROUGH.
Fellow :—
Clarke: John William.

HALIFAX.
Fellows :—
Buckley: George.
Fox: Charles James.
Horsfall: Richard,
Member of Council.
Horsfall: Richard Edgar.
Jackson: Benjamin Whitehead.

HARROGATE.
Fellow :—
Dent: Ralph John.

HOVINGHAM.
Fellow :—
Hornsby: Robert.

HUDDERSFIELD.
Fellows :—
Abbey: Joe Burman.
Crowther: John Herbert.
Demetriadi: Thomas Marsden.
Dransfield: Henry Brook.
Hanson: John Henry.
Professional Associate :—
Shaw: Arthur.

HULL.
Fellows :—
Bilson: John.
Botterill: William.
Brodrick: John.
Chowen: Henry Llewellyn.
Easton: John H.
Fillingham: Edward.
Fryer: George.
Gelder: William Alfred.
Hebblethwaite: Louis.
Tiffen: John Henry.
Tiffen: Joseph.
Todd: William Henry.
Watson: John.
Wellsted: William Henry.
White: Alfred Edward.

KEIGHLEY.
Fellow :—
Broster: Robert Buck.

YORKSHIRE—*continued.*

KIVERTON PARK.
Fellow :—
Carrington: Thomas.

LEEDS.
Fellows :—
Cundy: Hubert John.
Fenwick: Thomas.
Gott: Frank.
Hepper: John.
Jones: James William.
Newsam: Samuel Waterhouse.
Oldroyd: Linley.
Richardson: John.
Winn: Thomas.
Professional Associate:—
Muir: James.

LOWTHORPE.
Fellow :—
Piercy: Henry Onslow.

MIDDLESBOROUGH.
Fellow :—
Lofthouse: Roger.

NIDD.
Fellow :—
Swetenham: Henry.

NORTON.
Fellow :—
Abbott: Robert Thomas G.

OULTON.
Fellow :—
Farrer: John.

PENISTONE.
Professional Associate :—
Hinchcliffe: John, Jun.

PONTEFRACT.
Professional Associate :—
Watson: John, Jun.

RAWCLIFFE.
Fellow :—
Wright: James.

REDCAR.
Fellow :—
Rutherford: James.

SHARROW.
Fellow :—
Wilde: William.

SHEFFIELD.
Fellows :—
Ellison: Michael.
Flockton: Thomas James.
Fowler: Frederick.
Fowler: Reginald William.
Innocent: Charles John.
Johnson: Charles Haywood.
Mitchell-Withers: John Brightmore.
Marshall: Peter.
May: Thomas Henry.

SKIRLAUGH.
Professional Associate:—
Hollis: Ralph.

YORKSHIRE—*continued.*

SLEIGHTS.
Fellow :—
Popple : John.

WAKEFIELD.
Fellows :—
Greaves : John Oldroyd.
Kaye : John Edward.
Massie : Frank.
Professional Associate :—
Kaye : Edward Percival.

WETHERBY.
Fellow :—
Cundy : Hubert John.

WHITBY.
Fellow :—
Kirkby : Herbert.

YORK.
Fellows :—
Cox : Edward Samuel.
Clutton : William James.
Forbes : Charles Mansfeldt.
Fryer : George.
Jolly : John Hawkins.
Lawton : Charles Henry John Victor.
Walker : Francis Elliott.
Watson : Herbert Edward.
Professional Associates :—
Carr : Thomas Edmund.
Kerr : Arthur Herbert.
Lee : George Cansfield.

IRELAND.

CLARE.

CLARE CASTLE.
Fellow :—
Green : Alfred William.

DERRY.

COLERAINE.
Fellow :—
Given : Maxwell.

DUBLIN.

DUBLIN.
Fellows :—
Gibb William Pashley.
Grey : Charles Grey.
Millward : Isaac.

KILDARE.

CURRAGH CAMP.
Fellow :—
Randall : Richard.

MAYO.

MAYO.
Fellow :—
Joynt : George Lawrence.

SCOTLAND.

ABERDEENSHIRE.

ABERDEEN.
Associate :—
Forbes : Alexander.

ARGYLESHIRE.

DUNOON.
Fellow :—
Mackintosh : Charles John Maclean.

AYRSHIRE.

KILMARNOCK.
Fellows :—
Duke : Freke Guy Rashleigh.
Turner : Joseph Harling.
Professional Associate :—
Henderson : Richard.

EDINBURGHSHIRE.

EDINBURGH.
Fellow :—
Laurence : Peter.

FORFARSHIRE.

DUNDEE.
Fellow :—
Buchan : Thomas.

LANARKSHIRE.

GLASGOW.
Fellows :—
Barr : James.
Binnie : Thomas.
Brown : William.
Burnet : Frank.
Copland : William Robertson.
Danskin : John.
Hill : Thomas Nelson.
Laing : John.
Lammie : George.
MacDougall : Robert.
Munro : Daniel.
Parnie : James.
Smellie : Thomas Davies.
Whyte : William McNicol.
Professional Associate :—
Fraser : William.

SUTHERLANDSHIRE.

GOLSPIE.
Fellow :—
McLean: Donald.

WALES.

ANGLESEY.

LLANFAIR.
Fellow :—
Jones: William Edward.

BRECKNOCKSHIRE.

BRECON.
Fellow :—
Williams: Gerald Garnons.

CRICKHOWELL.
Fellow :—
Coles: Samuel Hood Cowper.

CARMARTHENSHIRE.

LLANWRDA.
Fellow :—
Davies: John Morgan.

LLANELLY.
Fellows :—
Blake: George.
Griffiths: William.
Rosser: William.
Wilkins: William.

CARNARVONSHIRE.

BANGOR.
Fellow :—
Dew: William Arthur.

CARNARVON.
Fellow :—
Williams: William Lloyd.

CRICCIETH.
Fellow :—
Jones: Walter Butler Clough.

LLANDUDNO.
Fellow :—
Gillart: David.

PORTMADOC.
Fellow :—
Roberts: Thomas.

DENBIGHSHIRE.

DENBIGH.
Fellow :—
Clough: Richard Charles Butler.

COLWYN BAY.
Fellow :—
Porter: John Merry.

LLANRWST.
Fellow :—
McIntyre: Peter.

LLANGWRN.
Fellow :—
Darley: William.

FLINTSHIRE.

MOSTYN.
Fellow :—
Pickering: William Cloves.

GLAMORGANSHIRE.

BRITON FERRY.
Fellow :—
Hunter: William Havard.

CARDIFF.
Fellows :—
Blosse: Edward F. Lynch.
Brown: Thomas Forster.
Corbett: Edwin Wortley Montagu.
Harpur: William.
Rees: Ithel Treharne.
Rigg: Charles.
Rooney: Samuel.
Thomas: George.
Waring: Charles Edward.

LLANDAFF.
Fellows :—
David: Edmund Ussher.
Williams: William Herbert.
Professional Associate :—
Crawshay: Lionel Ruttledge.

NEATH.
Fellow :—
Sheppard: Osborne.

PONTYPRIDD.
Fellow :—
Evans: Arthur Owen.

ST. FAGANS.
Fellow :—
Forrest: Robert.
Professional Associate :—
Forrest: William.

SWANSEA.
Fellows:—
Price: Francis Holborrow Glynn.
Rees: William John.
Rosser: William.

MERIONETHSHIRE.

BALA.
Fellow :—
Williams: John.

MONMOUTHSHIRE.

NEWPORT.
Fellow :—
Graham: Arthur Gore.

PONTYPOOL.
Fellow :—
Llewellin: David Morgan.

MONTGOMERYSHIRE.

KERRY.
Fellows :—
Birch: Walter de Hoghton.
Poundley: John Edward.

LLANIDLOES.
Fellows :—
Grant: James.
Powell: Evan.

NEWTOWN.
Fellow :—
Owen: William Scott.

WELCHPOOL.
Fellow :—
Addie: William Forrester.

PEMBROKESHIRE.

HAVERFORDWEST.
Fellows :—
Owen: Thomas Henry.
Owen: Thomas Rule.

PEMBROKE.
Fellow :—
Thomas: William.

RADNORSHIRE.

GLASBURY.
Professional Associate :—
Gunter: James.

RHAYADER.
Fellow :—
Williams: Stephen William.

FOREIGN PARTS.

BRITISH HONDURAS.
Fellow :—
Usher: Alfred.

CALIFORNIA.
Professional Associate :—
Brevetor: Thomas.

CANADA.
Professional Associate :—
Halton: Harry Russell.

CEYLON.
Professional Associate :—
Thornton: William Henry.

CHINA.
Fellow :—
Hancock: William St. John Hill.

COSTA RICA.
Professional Associate :—
Satchell: Charles.
Associate :—
Jongh: John Isidore de.

JAMAICA.
Fellow :—
Hodge: Leonard Percival.
Professional Associate :—
Hollis: Herbert.

JOHANNESBURG.
Fellow :—
Farrar: Sidney Howard.
Associate :—
Williams: Thomas D.

MELBOURNE.
Professional Associate :—
Morgan: Alfred Walker.

QUEENSLAND.
Professional Associate :—
Callendar: William Jackson.
Associate :—
Dowden: Walter Alfred Allen.

RANGOON.
Professional Associate :—
Hill: Alfred.

STRAITS SETTLEMENTS.
Fellow :—
Koch: John Godfrey.

BIBL. LONDIN. UNIV.